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THE PRESENT STATE OF OUR KNOWLEDGE OF ACUTE RENAL INFECTIONS

WITH A REPORT OF SOME ANIMAL EXPERIMENTS *

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NEW YORK

I have elected to present for consideration and discussion the results of some clinical and pathologic studies in acute renal infection. The subject is one which has interested me for several years, and at infrequent intervals and in a rather desultory manner I have followed out some experimental work, which at times has served only to confirm the work of others, and at other times has furnished a rational explanation of certain clinical phenomena observed in some of the severer forms of renal infection. The first series of experiments, which had to do with a determination of some of the more frequently encountered causes of acute hematogenous infections, has already been published. During the past year, however, some further experiments have been carried out with a view to determining the effects of some of the rarer etiologic factors, as the various degrees of anemia, passive hyperemia and aseptic infarcts, in the causation of hematogenous infections; as well as some observations on experimental ascending pyelonephritis.

As it is of advantage in any department of medical or surgical research in which advances are constantly being made to review from time to time the progress of the work, and as it were to take an inventory of our present knowledge based on the facts which have been definitely established, it occurred to me that it might be worth while on this occasion to make an inquiry into our present knowledge of the causation of renal infection, and the nature of the pathologic processes which result in the different clinical types of surgical infection of the kidney.

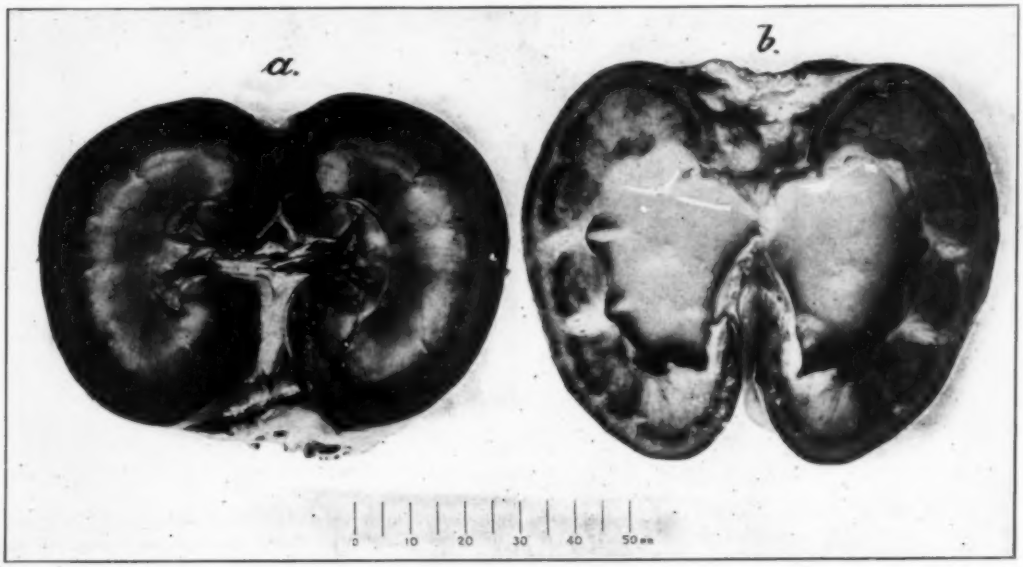


Fig. 1.—Right kidney (*b*) much enlarged and filled with pus (typical pyonephrosis); left kidney (*a*) apparently normal. Experiment 11.

I realize full well that I am addressing a body of men most of whom are doubtless familiar with the work that has already been done in this line of research; and I only regret that my own experimental work has not yielded more of practical interest and value to the clinical surgeon; but as the study of these conditions has been one of peculiar fascination and interest, I present it in the hope that it may be of value.

It is generally conceded that infection may reach the kidney in five different ways:

1. By a direct penetrating wound.
2. By direct extension from a neighboring focus.

* Experimental work carried out in the Surgical Research Laboratory of the College of Physicians and Surgeons.

* The Oration in Surgery delivered before the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, June, 1911, at Los Angeles, Cal.

3. By catheterization of the ureter.

4. By an ascending process from the lower urinary passages.

5. By the blood-current.

It is with the last two groups, the ascending and hematogenous infections, that this communication will chiefly deal. That the kidney when infected acquires its infection by one or the other of these methods in the overwhelming majority of instances is the opinion of all who have investigated the subject; but as to the relative frequency of these two methods, the causes which determine the one or the other, their unilateral or bilateral character, the acuteness or chronicity of their clinical manifestations, the probable end results of each, as well as their symptomatology, prognosis and treatment, all are subjects on which there has been and is at present considerable difference of opinion.

ASCENDING INFECTIONS—GENERAL CONSIDERATIONS

Long before the days of kidney surgery the occurrence of renal suppuration was frequently observed, and the classical lesions, as pyelonephritis, pyonephrosis, renal abscess and perinephritis, described pathologically and occasionally recognized clinically.

As a result of the frequent association in autopsy findings of these lesions with cystitis, and a dilated and inflamed ureter, and the clinical history of many cases in which the symptoms and signs of cystitis preceded by a considerable period the fatal outcome, the opinion prevailed that the kidney infection was invariably due to an extension upward of the inflammation from the bladder by continuity of tissue. With a view to determining the frequency, the factors which favor an ascending infection, and the extent and character of the renal lesions resulting therefrom, considerable experimental research has, from time to time, been undertaken by a number of able investigators, a brief review of which may not be out of place.

In 1890 Guyon and Albarran demonstrated by animal experiments that virulent cultures of pathogenic microorganisms injected into the healthy bladder gave rise to no demonstrable lesion in the bladder, ureters or kidneys. If, however, the bladder contamination was associated with urinary retention produced by ligation of the urethra, an acute cystitis resulted, with a later infection of the renal pelvis and parenchyma. Zemblinoff sought to explain this ascent of microorganisms through the ureter during retention, by an antiperistaltic action on the part of the ureteral musculature. This view, explaining as it did the phenomena of ascending infection, was for a time generally accepted, until discredited by a second series of experiments by Guyon and Albarran, in which they injected into the bladder inert colored particles of vegetable charcoal, and various species of bacteria, and by producing an artificial retention as in the former experiments, noted the results in each series, particularly the relative time necessary for the inert powder and living organisms to reach the renal pelvis.

It was found that, under condition of complete urinary retention, forty-eight hours was necessary to effect the transfer of particles of charcoal powder to the renal pelvis, and even then they were found only in minute quantities; while the living bacteria were demonstrated in considerable numbers in three, nine and a half, and twelve hours from the time of inoculation. This difference the authors ascribed largely to the motility of the organisms, which certain species of bacteria, as the colon bacillus, are known to possess to a very considerable extent.

The length of time which elapsed before the charcoal powder could be detected in the renal pelvis, effectually disproved any real muscular antiperistaltic action. Some years later Ajevoli explained the ascent of inert particles or bacteria in the ureter, under conditions of urinary retention, as due to the ordinary laws of hydrodynamics, according to which, while the main current of fluid in the dilated ureter would move slowly downward, countercurrents, eddies, and to a certain extent, to-and-fro movements would be present which would account for the slow diffusion of particles contained in the ureteral urine, and their gradual ascent to the renal pelvis.

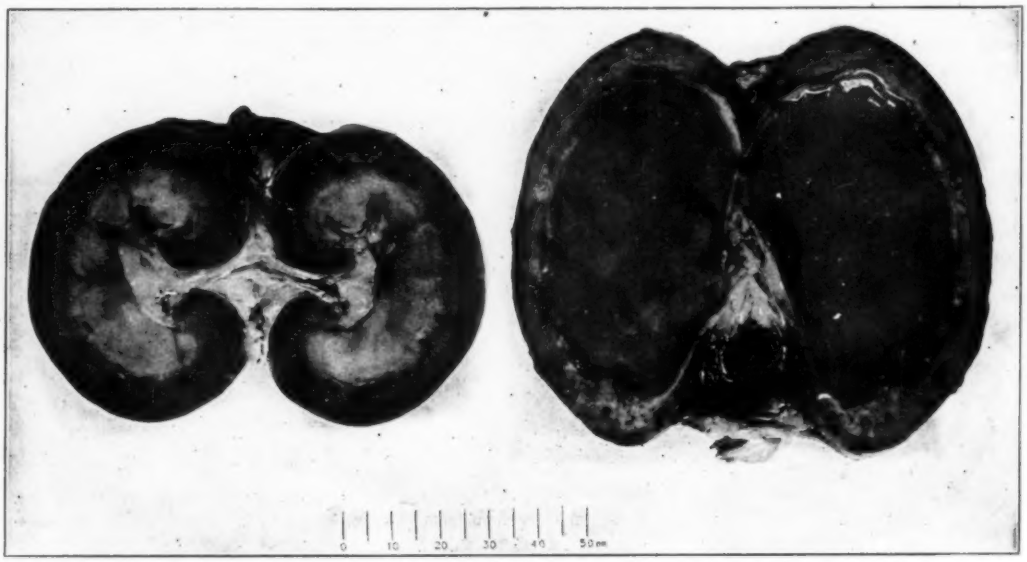


Fig. 2.—Typical pyonephrosis of right kidney. Experiment 12.

Following these original experiments, many confirmatory observations were made and published both in France and Germany, among which may be mentioned those of Lewin and Goldschmidt, who demonstrated the ease with which an ascending infection could be produced in rabbits as contrasted with the difficulty in producing it in dogs; and those of Albarran in which he invariably produced the typical picture of a severe ascending pyelonephritis by the injection of pathogenic organisms into the proximal segment of a ligated ureter.

These positive results were produced by a variety of organisms, as the *B. coli*, *Streptococcus pyogenes*, *Staphylococcus pyogenes aureus*, and a liquefying bacillus described by Albarran. In the human subject the colon bacillus undoubtedly plays the most important rôle, for in twenty-five cases reported by Guyon, it alone was responsible for the infection in sixteen instances, while in seven others it was present with other organisms as a mixed infection.

contaminated urine from an infected bladder into the ureter, constantly swept the infected material downward and finally again forced it outward into the bladder; and (2) the protective mechanism of the intravesical portion of the ureter. This by its oblique transit through the vesical wall, and the presence of a girdle of encircling muscular fibers from the bladder wall, allows no backward reflux of fluid from the bladder under normal conditions of bladder rest and contraction. Gradual distention, when unassociated with muscular contractions, even to the most extreme degree, does not permit the ureteral reflux. Distention, even moderate in extent, when associated with muscular contractions, particularly when this muscular contraction or spasm is premature, involuntary, or reflex in nature, does allow an opening of the ureteral orifice and a reflux of bladder urine into the ureter.

Albarran in 1899, reviewing the entire subject, stated that the clinical conditions necessary for the ascent of

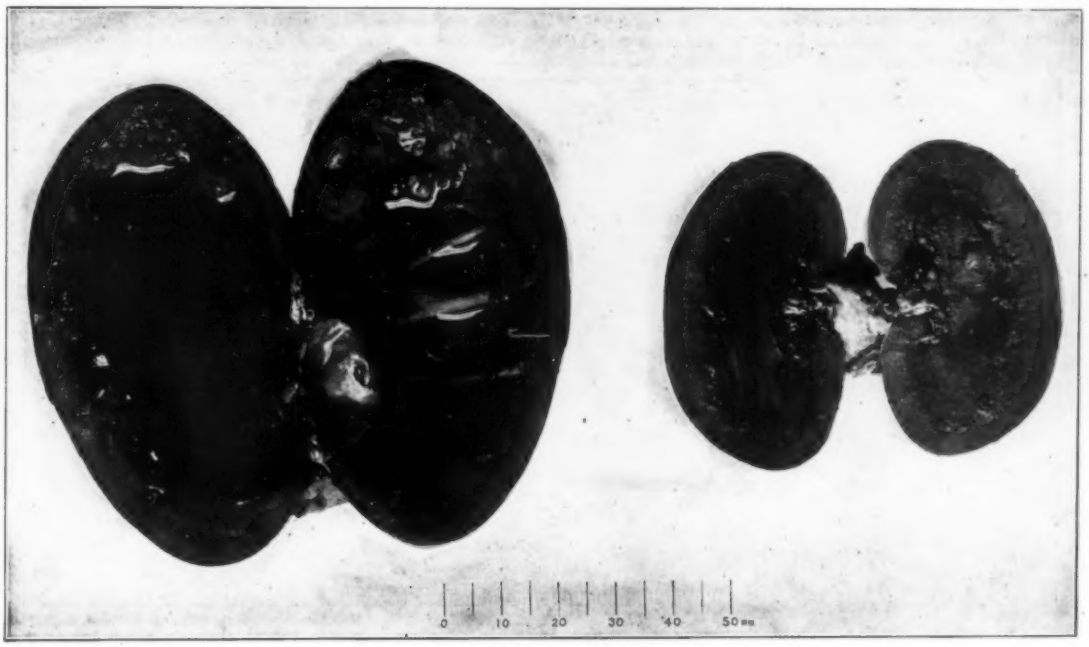


Fig. 3.—Typical appearance of pyonephrosis with extensive destruction of renal tissue. Experiment 13.

In 1898 Rovsing published the results of a series of animal experiments and clinical observations which cast considerable doubt on the importance of the *B. coli* in the causation of renal infection. While admitting that the colon bacillus gave rise to a certain number of comparatively mild infections of the urinary passages, he expressed the opinion that in the great majority of the graver infections, the causative microorganism was one of the pyogenic cocci or some other organism capable of decomposing the urea and giving rise to ammoniacal urine; and this view has been widely accepted by later observers.

In 1894 Courtade and Guyon published the results of an interesting group of experiments, which tended to show that the protection of the kidney against an ascending infection from the bladder, lay in two important factors: (1) the constant downward current in the ureter, which even when a reflux occurred admitting

a given vesical infection to the kidney were: an incomplete urinary retention, from chronic prostatic enlargement, vesical tumor, or urethral stricture; the presence of a new growth, tuberculous ulceration, or some other injury or lesion which mechanically interfered with the normal sphincteric action of the ureteral orifice; or the occurrence of an acute cystitis or some other source of severe bladder irritation, resulting in tenesmus. The comparative rarity of these conditions associated with bladder infection, especially in the young, led Albarran to attribute a considerable number of the renal infections clinically observed, not to ureteral ascent, but to infection through the blood-current (hematogenous infections).

In older subjects, however, with a prolonged history of urethral stricture or prostatic disease, when the vesical dilatation has progressed to such an extent that the ureteral sphincter is wholly inoperative, and the

ureters are so dilated as to constitute a single cavity with the bladder, it is inconceivable to imagine a bladder infection not ascending to the kidney, for Völcker has reported numerous cystoscopic examinations in which, under these conditions, he has seen particles floating in the bladder fluid aspirated or drawn upward into the ureter by each respiratory movement.

During the past year Stewart, of Philadelphia, has published an interesting series of observations on ascending infections, noted during some experimental studies in intestinal transplantation of the ureters. He calls particular attention to the lymphatic route, and reports several instances in which the infection was evidently carried direct to the perirenal structures resulting in perirenal abscess.

Such, in brief, is the bare outline of the experimental investigations into the pathologic processes giving rise to ascending infections of the kidney. The chief factors of chronic retention, acute retention with spasmodic contraction of the detrusor, mechanical interference with the ureteral sphincter, are the predisposing causes now generally admitted to be necessary for a given vesical infection to ascend to the kidneys. Two other etiologic factors have been mentioned, but have not to my knowledge been proved experimentally; one, the effect of ureteric paralysis from spinal trauma or disease mentioned by von Frisch; and the other, an instantaneous paralysis of the ureteral musculature caused by the entrance of injection fluid into the ureter during vesical irrigation, described by Rothschild. As these are only other methods of forcing the ureteral orifices and depriving the kidney of the protection normally furnished by the ureteral sphincter, and as both seem highly probable in the light of the experimental studies noted above, they can be accepted as rare but possible etiologic conditions.

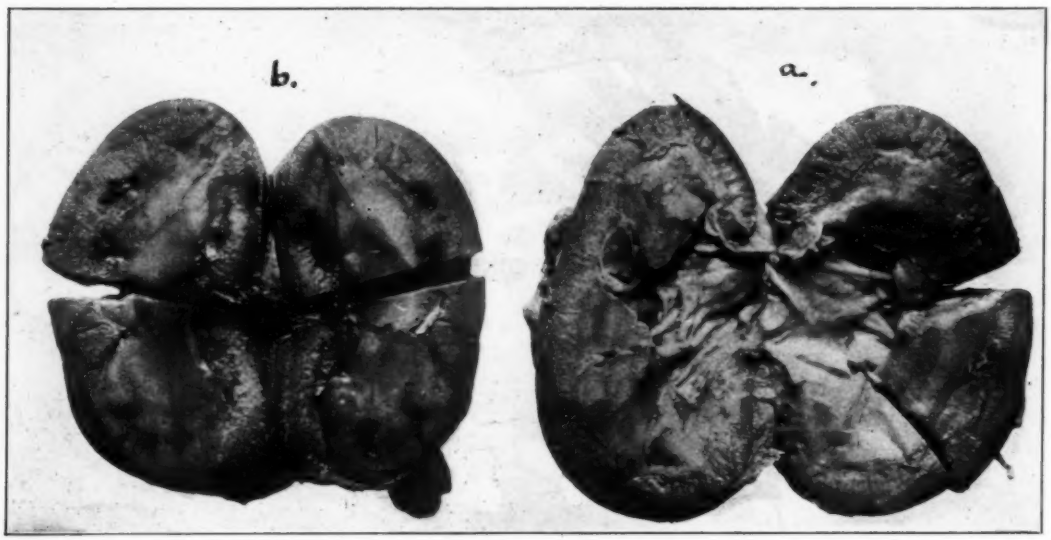


Fig. 4.—Dilated pelvis (a); normal kidney (b). Experiment 17.

EXPERIMENTS ON ASCENDING INFECTIONS

During the past winter an experimental study as to the etiology of both ascending and hematogenous infections of the kidney was carried out under my direction at the Surgical Research Laboratory of the College of Physicians and Surgeons, by Dr. John C. Vaughan. Many of these experiments were undertaken simply to verify the conclusions of former experimenters, or with a view to determining the ease or difficulty of producing renal lesions by the ascending process, as compared with another series in which hematogenous infections were studied. The following results bearing on the questions involved in ascending infections gleaned from a much larger number were both interesting and instructive to me and will be reported in detail.

EXPERIMENT 1.—Medium-sized fox terrier. Twenty-four-hour slant culture of *B. coli* was mixed with normal saline solution and injected into the bladder through a catheter under aseptic precautions. The dog showed no sign of illness. The urine was clear for one week. At the end of that period the dog was killed and the autopsy revealed no sign of infection of the urinary tract.

Microscopic examination of renal tissue was negative, except for congested vessels. There was blood pigment in epithelium of straight tubules and occasional areas of degeneration.

EXPERIMENT 2.—Medium mongrel. Same experiment as in former animal with the exception that the gonococcus was used instead of the colon bacillus. Autopsy at the end of one week was absolutely negative.

Microscopic examination was the same as in the last case, but changes somewhat less marked.

EXPERIMENT 3.—Small mongrel. Same experiment repeated with *Streptococcus pyogenes*. Autopsy at the end of one week negative. Microscopic examination of renal tissue normal.

In none of these experiments was there any interference with the normal discharge of urine from the bladder. None of these animals showed the slightest discomfort or illness which could be attributed to the infection, and in no instance did the mucous membrane of the bladder, ureters, or renal pelvis exhibit even the slightest reaction; and while the gonococcus is not under ordinary circumstances likely to produce infection in the urinary passages of the dog, the colon bacillus and the streptococcus are well-recognized causes of such infections. These experiments, therefore, serve to confirm the statements of Albarran and others, that something more than the presence in the bladder of path-

ogenic microorganisms is necessary for the production of a local or spreading infection of the urinary passages.

EXPERIMENT 4.—Washings from a twenty-four-hour slant culture of *B. coli* injected into the bladder of a dog, under the same conditions as in Experiment 1, and the urethra ligated for twenty-four hours. The dog showed no sign of illness. The urine when allowed to flow after the removal of ligature was clear. Autopsy ten days later showed no reaction in mucous membrane of bladder, ureters, or kidneys.

Microscopic examination showed only few epithelial tubules undergoing calcification in left kidney. The right kidney was normal.

EXPERIMENT 5.—Small mongrel. Same experiment and technic as Experiment 4, with the exception that the streptococcus was substituted for the colon bacillus. The urethra was released after twenty-four hours. Autopsy showed the bladder dilated, wall thickened and edematous, mucous membrane red and swollen. Urine contained pus and blood. The urethra was free, the kidneys were soft and gave signs on gross inspection of acute parenchymatous degeneration. Cultures from the pelvis of the kidney were negative.

Microscopic examination showed chronic diffuse nephritis (old process), slight glomerular degeneration. Ureter showed slight amount of round-cell infiltration.

EXPERIMENT 6.—Same as Experiment 5, except that one-half the dose of culture broth was used, and the urethra was ligated for only eighteen hours. The dog seemed sick but lived. Ten days later it was killed and the autopsy showed no gross lesions. The urine was clear.

EXPERIMENT 7.—Same as No. 5, except that the gonococcus was employed. The ligature was removed in twenty-four hours. The dog gave evidence of profound infection and died the following day. There had been no voluntary urination, although the urethra was clear. At autopsy the bladder wall was thick and edematous. The mucous membrane showed numerous hemorrhagic areas. The viscus was distended with cloudy urine containing pus and blood, the renal pelvis was distended with purulent urine. The kidneys were soft but normal in size. Cultures from the pelvis of the kidney showed mixed infection, streptococcus and an unidentified bacillus. Smears from the mucous membrane of the pelvis showed no gonococci. There was evidently a mixed accidental infection.

Microscopic examination showed marked hyperemia, calcification of straight tubules, local abscesses, bladder wall much infiltrated with polymorphonuclear leukocytes and submucosa of ureter infiltrated with round and pus cells.

These experiments demonstrate that the combination of a contamination of the bladder with pathogenic organisms, together with an artificial retention of urine for twenty-four hours, in certain instances may give rise to a virulent or even fatal ascending infection.

The next two experiments were undertaken with a view to ascertaining if retention alone without the added element of vesical irritation and probable tenesmus would overcome the normal protective mechanism of the ureteral sphincter.

EXPERIMENT 9.—A strong solution of methylene blue was injected into the bladder of a dog, and the urethra ligated for twenty-four hours.

EXPERIMENT 10.—Same experiment repeated, the ligation being allowed to remain in place for thirty-two hours.

In both instances the autopsy revealed an abundance of dark-blue urine in the bladder, but no blue discoloration or urine in the ureters or renal pelvis.

EXPERIMENT 11.—Fox terrier. The right ureter was exposed and ligated near the bladder and *B. coli* injected into the lumen of the ureter above the ligature. The dog appeared well for one week, then grew weak and refused food; it died on the fourteenth day. Autopsy showed the right kidney much enlarged and filled with pus, typical pyonephrosis; left kidney apparently normal (Fig. 1). Heart, liver and spleen showed acute degeneration.

Microscopic examination showed the cortex of the kidney acutely inflamed, many hemorrhages, purulent infiltration, medullary portion filled with pus cells, acute degeneration.

EXPERIMENT 12.—Same as No. 2. The dog (a bull terrier) appeared very ill and was killed on the fifteenth day. Autopsy showed typical pyonephrosis of right kidney (Fig. 2). Other organs showed no gross lesions.

On microscopic examination the kidney cortex was found to contain many areas of round-cell infiltration and hemorrhages. The medullary portion showed acute degeneration. The ureter was not inflamed.

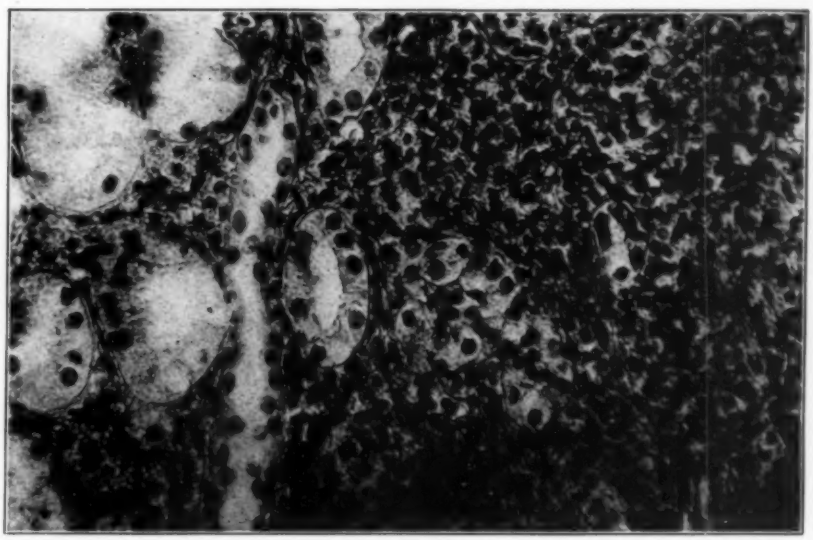


Fig. 5.—Microscopic appearance of section from Experiment 30, showing edge of infarct.

EXPERIMENT 13.—Same procedure as in last two experiments, with the exception that streptococcus was used. The dog (a small mongrel) was very ill and was killed on fifteenth day. Autopsy gave same typical appearances of pyonephrosis, with extensive destruction of renal tissue (Fig. 3). There was no other gross lesions.

These experiments confirm those of Albarran, and illustrate the importance of ureteral obstruction in the presence of an infected pelvic or ureter.

A number of experiments were next undertaken by the injection of bismuth paste into the renal pelvis or ureters with the hope of producing calculi, but unfortunately these experiments were failures, and will not be recorded. Other experiments were undertaken with a view to determine if trauma to one kidney with infection of the bladder, but without the added element of urinary retention, could result in an ascending process.

In one of these the kidney (Experiment 14) was exposed and almost pulpified by pinching and severely bruising its parenchyma, giving rise to considerable hemorrhage and edema. An injection of the usual amount of *B. coli* solution was made into the bladder; and, the dog remaining in good health, this injection was repeated two days later. Twelve days after the last injection, the dog, being apparently well, was killed and the autopsy revealed no lesion except a blood-clot slightly encrusted with urinary crystals in the pelvis. Cultures from the pelvis were negative. The most noticeable feature of the case was the great amount of repair which had taken place in the injured kidney in twelve days. Microscopic examination was negative, except for scattered areas of inflammation of renal parenchyma.

In another experiment (No. 15) the kidney was exposed and a suture passed through the renal pelvis in several directions, in the hope that this foreign body might serve as the nucleus of a calculus. The bladder was injected with a culture of the *B. coli*, the streptococcus and the gonococcus at intervals of three or four days. The dog seemed slightly ill, but took food well and apparently recovered. Autopsy twenty-nine days later showed a suture about half an inch long on interior of renal pelvis, slightly encrusted with urinary sediment. There had been no leakage and there was no evidence found of renal infection.

In another instance (Experiment 16) the kidney was exposed and after stripping it of its capsule a probe was passed through its substance several times. Bladder injected with culture of *B. coli* and later with streptococcus. Autopsy ten days later. No infection in any part of the urinary tract. Traumatized kidney appeared grossly normal.

In another dog (Experiment 17) the ureter was exposed and ligated two inches below the kidney, producing complete occlusion. *B. coli* and streptococcus were separately injected into bladder. There was no sign of illness or disturbed function. Ten days later autopsy revealed a dilated pelvis and ureter above the ligature, containing clear urine, but no sign of infection (Fig. 4). Cultures and microscopic examination were negative.

In two other dogs (Experiments 18 and 19) small seeds of blue moss were injected into the left renal artery. In one the bladder was injected with *B. coli*, in the other with the streptococcus. Autopsy was performed in each case at the end of one week. The left kidney was found to contain numerous infarcts but no sign of infection. The bladder in the streptococcus case was badly infected. Microscopic examination revealed no signs of infection. In the streptococcus case epithelium of many straight tubules filled with blood pigment granules.

These experiments tend to disprove the view which is not infrequently expressed and which I formerly held, that a diminished resistance on the part of one kidney through trauma or disease, favors an ascending unilateral lesion without etiologic elements other than an infected bladder. The importance of even slight traumata in the production of hematogenous infections has been abundantly established, as will be shown later in this report.

Up to the present we have been considering only those infections in which the microorganisms ascend or are carried up to the pelvis of the kidney by the column of urine in the ureter. In the great majority of instances of acute ascending infection, the infection reaches the kidney in this manner, the intervening mucous membrane of the ureter showing but slight or no actual anatomic change. Direct extension along the mucous membrane of the ureter from the bladder upward to the renal pelvis, or by the ureteral lymphatics, is generally admitted, although as late as 1899, Albarran stated that it had not been demonstrated anatomically.

I have not been successful in producing an ascending infection by direct extension along the mucous membrane in animals, although on two occasions when the bladder was infected and an artificial retention produced by ligation of the urethra, there was found a moderate round-cell infiltration of the submucous coat of the ureters.

Regarding the possibility of an ascending infection by the blood-vessels and lymphatics of the ureter, Stewart's experiments are suggestive, although not conclusive, as the ureters had been detached from the bladder and implanted into the bowel.

With a view to creating an ascending infection by the ureteral lymphatics, two experiments were made (20 and 21). In each case the peritoneal cavity was opened and an active culture of the streptococcus was injected into the wall of the bladder near the implantation of the left ureter. No apparent reaction occurred and, ten days later, the animals were killed. Autopsy in each case revealed inflammatory adhesions at the site of the injection. In one case the ureter appeared normal, and microscopic examination showed no inflammatory lesion; in the other the ureter was somewhat thickened, and the microscopic examination revealed a very marked round-cell infiltration in the peri-ureteral tissues. There was no gross lesion in either kidney.

A combination of these two methods of the ureteral ascent of infection, is occasionally seen clinically, as the following example will show.

An elderly woman convalescent from typhoid fever but suffering from a cerebral lesion with extremely obscure symptoms, was examined by me and submitted to an exploratory operation. Up to the time of operation there was no retention and no sign of bladder infection. Following the operation she suffered from retention and was catheterized on two or three occasions. Shortly thereafter she suffered from a severe cystitis with marked tenesmus and bloody urine. Rapid prostration followed and she died within ten days. At autopsy, in addition to the cerebral lesion, the bladder was found to be in a state of acute inflammation with a large gangrenous sloughing ulcer in the region of the trigone and ureteric orifices. The left ureter and peri-ureteral tissues were markedly edematous, with a gangrenous inflammation of the mucous membrane extending to and involving the entire renal pelvis. The kidney was completely destroyed by purulent infiltration. The right ureter was similarly affected in its lower segment, but the inflammatory changes gradually diminished and on gross inspection ceased before reaching the kidney. The right kidney showed extensive cloudy swelling of its cortex. There was no sign of infection of the operative wound which had healed primarily.

While most of us have seen occasional examples of this type of ascending infection, it is certainly rare as compared with that type in which the microorganisms ascend directly by the column of urine to the renal pelvis; and in this connection I feel compelled to take issue with Stewart, who expresses the belief that in ascending infections the route taken is more frequently a roundabout one through the lymphatics than the direct ascent of the organisms through the ureteral lumen.

From a review of the known pathologic evidence and the experimental investigations of others, and from our own animal research studies and clinical experience, I feel that we are justified in making the following statements:

1. An ascending infection is responsible for a certain proportion of the acute surgical infections of the kidney.

2. In the great majority of such instances, the infectious material is carried upward to the kidney by a reflux of contaminated urine into the ureter and renal pelvis through the ureteral orifice, as the result of some interference with its protective mechanism. The factors which favor this process are, in the order of their impor-

tance: (A) a chronic obstruction to the normal bladder outflow, as urethral stricture, obstructive prostatic hypertrophy, prostatic or vesical new growth; (B) acute cystitis with severe tenesmus and violent expulsive efforts; (C) severe inflammation, ulceration, calculus or new growth involving the ureteric orifices, interfering with the normal sphincteric action; (D) ureteral and detrusor paralysis from spinal injury or disease; and (E) the possible temporary paresis of the ureteric sphincter by the passage of a large ureteral calculus.

3. In certain rare instances the process may occur by a direct extension of the inflammation along the mucous membrane of the ureter by continuity of tissue, as proved by numerous clinical observations, although I have been unable to reproduce it in animal experiments.

4. In other rare instances the infection may ascend by the ureteral or peri-ureteral lymphatics, and this is more likely to occur if there exists an infection in the deep structures of the bladder wall involving the vesical lymphatics; and

5. As stated by Legueu, these methods in certain cases may be combined and concomitant.

HEMATOGENOUS INFECTIONS—GENERAL CONSIDERATIONS

This group of cases constitutes by far the most interesting series in all renal pathology, embracing as it does, cases illustrating the greatest variety in regard to etiologic factors, and the greatest difference in virulence, symptomatology, prognosis, and therapeutic indications.

The frequent association in autopsy findings of renal suppuration with cases of pyemia, septicemia, erysipelas, endocarditis, and other fatal septic conditions, had been observed by pathologists for many years before its significance was appreciated.

It was perhaps Lannelongue who, after observing this association in seven out of ten fatal cases of osteomyelitis, first emphasized the importance of renal infection through the blood-current, independent of the fatal general blood infections.

EXPERIMENTS ON HEMATOGENOUS INFECTION

The following report of the next sixteen experiments is quoted from my original communication, and while it does not include all of the experiments, it comprises all which exhibited definite lesions and in which microscopic examinations were made. As will be seen from the protocols, an effort was made in each experiment to lower the resistance of one kidney, either by trauma, the introduction of a foreign body, or the production of an artificial hydronephrosis.

EXPERIMENT 22.—Small black rabbit. Ether. Right kidney exposed by lumbar incision. Right kidney delivered and bruised with fingers. Wound united with silk and sealed with a cotton and collodion dressing. Two cubic centimeters of a streptococcus culture injected into ear vein. Control animal injected with same amount, but without injury to the kidney. Neither animal seemed to suffer from the experiment. Both killed on the fourteenth day. No gross lesions found on autopsy. On microscopic examination of the four kidneys, only hyperemia and slight degeneration, revealed, most marked in injured organ.

EXPERIMENT 23.—Large white-and-brown rabbit. Ether. Right kidney exposed and bruised, as in Experiment 1. Two cubic centimeters colon culture solution injected into ear vein. Control animal injected without injury to the kidney. Death of both animals in twelve hours from acute toxemia. At autopsy no gross lesions found. Microscopic examination negative as to surgical lesions.

EXPERIMENT 24.—White rabbit. Ether. Right kidney exposed and bruised; 1 c.c. virulent typhoid culture (from a fatal case of typhoid septicemia) injected into ear vein. Control animal injected without injury to kidney. Death of injured animal on fifth day from general sepsis. Abscess in lower pole of injured kidney, which had broken through and given rise to a perinephritic suppuration. In opposite kidney a single hemorrhagic infarct. Well-marked peritonitis present (culture negative), and other evidences of acute septicemia. Control animal killed; no gross lesions presented. On microscopic examination of injured kidney, multiple bacterial emboli seen in vessels, especially of glomeruli; surrounding these, more or less extensive areas of necrosis and inflammation. Entire kidney markedly hyperemic. Mild parenchymatous degeneration. In opposite kidney, a single large wedge-shaped hemorrhagic infarct extending to the surface of the kidney. Infarct area necrotic, presenting numerous bacterial emboli; separated from neighboring healthy kidney tissue by thick wall of leukocytes.

EXPERIMENT 25.—Brown rabbit. Ether. Right kidney exposed and bruised. One-half centimeter same colon solution as in Experiment 2 injected into ear vein. Control rabbit injected without injury to the kidney. Death of injured rabbit on seventh day. At autopsy lesion of injured kidney revealed. Opposite kidney apparently normal. Control animal killed. No lesions. On microscopic examination of injured kidney, single sharply circumscribed abscess in cortex found, midway between pelvis and external border. In opposite kidney, slight hyperemia of glomeruli.

EXPERIMENT 26.—Grey-and-white rabbit. Ether. Right kidney exposed and bruised. Two cubic centimeters streptococcus solution injected into ear vein. Control animal injected without injury. Death of injured rabbit on sixth day of sepsis. Ulcerative endocarditis found, and other viscera congested. Right kidney surrounded by hematoma and mass of fibrin. Hemorrhagic and necrotic area in lower pole. Parenchymatous degeneration. Opposite kidney showed only cloudy swelling. Control animal killed. No lesions.

EXPERIMENT 27.—Black rabbit. Ether. Left kidney injured by blow on lumbar region. Two cubic centimeters of *Staphylococcus pyogenes aureus* injected into ear vein. Animal killed at the end of sixteen days. Autopsy showed large septic infarct. Right kidney apparently normal. Microscopic examination of injured kidney. In addition to infarct, the cortex was studded with a number of small abscesses about four times the size of a glomerulus. Well-marked round-cell infiltration in stroma surrounding abscesses. Slight cloudy swelling. Right kidney, slight cloudy swelling.

EXPERIMENT 28.—White rabbit. Ether. Left kidney injured by external blow. Two cubic centimeters of typhoid in ear vein. No evidence of gross illness. Animal killed on sixteenth day. Injured kidney presented subcapsular hemorrhage. Large hemorrhagic infarct, with abscesses at base. On microscopic examination, extravasation of blood found beneath capsule of left kidney. Large wedge-shaped area of necrotic parenchyma, containing several bacterial masses. Moderate leukocytic infiltration. Right kidney normal.

EXPERIMENT 29.—Large white rabbit. Ether. Left kidney injured by external blow. Two and a half cubic centimeters pyocyaneus solution injected into ear vein. Death of animal in twenty-four hours. Left kidney deep red color, surrounded by blood-clot. Right kidney apparently normal. On microscopic examination of injured kidney, acute exudation nephritis found, with extensive destruction of convoluted tubules. Glomerular tufts compressed by albuminous exudate within capsule of Bowman. Extensive blood extravasation throughout parenchyma. Opposite kidney hyperemic, with parenchymatous degeneration.

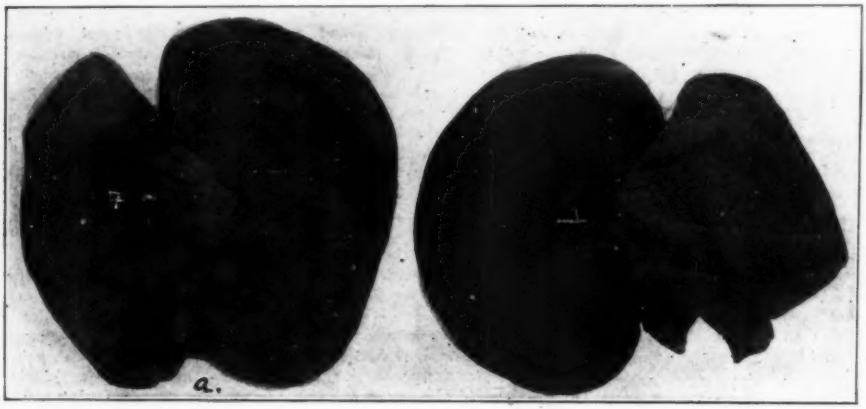
EXPERIMENT 30.—Large white bull terrier. Ether. Right kidney exposed by lumbar incision. Pelvis of kidney injected with a pasty mass of bismuth subnitrate mixed with glycerin and water. One and one-half cubic centimeters colon solution injected into ear vein, animal becoming markedly ill. Killed on seventh day. Autopsy showed right kidney adherent to liver, colon and omentum by inflammatory exudate. Capsule very much thickened. On removal of capsule, two large triangular infarcts and several embolic foci seen on surface. Left kidney normal in appearance. On microscopic examination

of right kidney, large triangular areas of intense hyperemia seen with extensive purulent infiltration. Necrosis of tubular epithelium (Fig. 5).

EXPERIMENT 31.—Large brown mongrel dog. Ether. Right kidney exposed. Ureter ligated. Bismuth mixture injected into parenchyma. One cubic centimeter colon solution injected into ear vein, animal showing marked evidence of illness at the end of twenty-four hours. Killed on seventh day. At autopsy right kidney found to be surrounded by perinephritic abscess. Capsule greatly thickened. On removal, surface of the kidney seen to be studded with innumerable embolic foci. Left kidney normal in appearance (Fig. 6). Heart, lungs, liver, spleen, pericardium and peritoneum normal. Microscopic examination of right kidney, profuse purulent and fibrinous exudate on capsule. Beneath capsule, numerous bacterial emboli surrounded by necrotic areas, which are infiltrated with masses of pus cells forming multiple abscesses. Left kidney hyperemic. Moderate cloudy swelling.

EXPERIMENT 32.—Large brown rabbit. Ether. Right kidney bruised by blow on parietes. One cubic centimeter pyocyaneus injected into ear vein. Death in twenty-four hours. No pus lesions found at autopsy. Microscopically, in both kidneys extensive hyperemia and parenchymatous degeneration found.

EXPERIMENT 33.—Large black-and-white rabbit. Ether. Right kidney bruised by blow. Four cubic centimeters *Staphylococcus pyogenes aureus* injected hypodermically, animal becoming ill on third day. Killed on seventh day. Autopsy: In both kidneys, multiple septic infarcts present. Other organs normal. On microscopic examination, multiple small abscesses with parenchymatous degeneration found in both kidneys. Somewhat more marked change in injured kidney.



A B

Fig. 6.—Diseased kidney (a) and healthy kidney (b), from dog. Experiment 31.

EXPERIMENT 34.—Small brown rabbit. Ether. Right kidney bruised by blow; 1.5 cm. streptococcus solution injected into ear vein. Animal died on fifth day. Autopsy: right kidney hemorrhagic infarct; left kidney normal; other organs normal. Microscopic examination of right kidney showed hemorrhagic infarct, with numerous bacterial emboli in surrounding necrotic area. Left kidney normal, except for a few deeply stained small areas near one papilla, probably bacterial emboli.

EXPERIMENT 35.—Small brown rabbit. Ether. Right kidney bruised by blow. One half cubic centimeter typhoid injected into ear vein. Animal killed on seventh day. No gross lesion of kidneys, except subcapsular hemorrhage in injured organ. Microscopic examination revealed hyperemia and degeneration, most marked in right kidney.

EXPERIMENT 36.—White rabbit. Ether. Left kidney bruised by blow. Two cubic centimeters typhoid injected into ear vein. Animal killed on seventh day. No gross lesion found at autopsy. On microscopic examination, parenchymatous degeneration of injured kidney seen. Opposite kidney normal.

EXPERIMENT 37.—Brown rabbit. Ether. Left kidney injured by blow on flank. Four cubic centimeters pneumococcus broth injected into ear vein. Death in thirty-six hours. At autopsy, right kidney apparently normal. Left kidney acutely congested. Subcapsular hemorrhages. Numerous areas of parenchymatous hemorrhage throughout cortex. On microscopic examination, cortex found studded with minute areas of extravasated blood. In and about these areas are seen very numerous groups of diplococci, some occupying region of tubules, the epithelium of which has undergone marked degeneration. On the periphery of these areas, masses of diplococci may be seen filling the lumen of the capillary vessels. Well-marked exudation of pus-cells surrounding these areas and in the stroma (Fig. 7). Right kidney showed marked hyperemia and cloudy swelling.

A review of these experiments will show that none of the control animals which had received a moderate dose of pathogenic bacteria directly into the circulation without other injury developed a surgical lesion of the kidney. Of the sixteen animals which, in addition to the inoculation, received an injury to one kidney, five showed no lesion, or only hyperemia and parenchymatous degeneration. Two of these animals died within twenty-four hours, of acute septic intoxication. Of the remaining eleven, all developed distinct surgical lesions of the kidney. In eight the lesions were unilateral, and limited to the injured kidney. In three, the lesions were bilateral. In one of the bilateral cases the lesions were practically equal in extent and in severity. In the other two, the lesions in the injured kidney were mild in character, and they undoubtedly would have recovered under favorable conditions.

The following experiments were undertaken to determine the effect of a more or less complete anemia in lowering the resistance of a kidney to a blood infection.

EXPERIMENT 38.—Small mongrel dog. Left kidney exposed and renal artery diminished in caliber by incomplete ligature. Pulsations, however, could still be felt in kidney. *B. coli* injected into ear vein. Dog apparently free from evidences of illness. Autopsy one week later revealed large abscess in upper half of kidney with strong colon odor. Opposite kidney and other organs negative. Microscopic examination: Local abscess, kidney parenchyma infiltrated with leukocytes. Acute degeneration. Right kidney normal, except for scattered hemorrhagic areas.

EXPERIMENT 39.—Small mongrel. Left kidney exposed and renal vein ligated. *B. coli* injected into ear vein, dog becoming sick and weak; blood passed in urine. Autopsy at end of seven days; left kidney completely destroyed by purulent infiltration and necrosis. Strong colon odor. Opposite kidney and other organs negative. Microscopic examination: Left kidney, acute degeneration of parenchyma; purulent infiltration and abscess formation. Right kidney, nearly normal; slight hyperemia; scattered areas of extravasated blood.

EXPERIMENT 40.—Small mongrel. Left renal artery tightly ligated. *B. coli* injected into ear vein. No sign of illness.

Autopsy at end of one week. Left kidney shrunken and anemic. A number of small abscesses in cortex, probably due to some small anastomosis or aberrant artery. Opposite kidney and other organs negative. Microscopic examination: In left kidney, acute parenchymatous degeneration; infiltration with leukocytes. In right kidney, only slight congestion of vessels.

EXPERIMENT 41.—Fox terrier. Left kidney exposed and upper branch of renal artery tied. *B. coli* injected into ear vein. No sign of illness. Autopsy one week later showed upper posterior half of kidney shrunken and anemic. One small abscess on outer surface. Opposite kidney and other organs negative. Microscopic examination: Medullary portion undergoing degeneration. Cortex infiltrated with leukocytes. Numerous hemorrhages filled with deeply staining tortuous areas, probably calcified tubules. Right kidney normal.

These cases illustrate the fact that anemia and passive hyperemia so lower the resistance of the organ to a blood infection as to result in definite surgical lesions. In this connection it is interesting to recall the experiments of Lucas and Burton-Opitz, who demonstrated that under conditions of increased pressure in the renal pelvis and ureter, the renal circulation was greatly diminished, for it explains the marked susceptibility to infection in cases of hydronephrosis.

A number of other experiments were undertaken to determine the effects of small inert emboli, in the production of surgical lesions by means of a blood infection.

The minute seeds of blue moss were employed. In nine instances (Experiments 42 to 50) these were injected into the general arterial circulation, and the animals subsequently inoculated as in the other experiments. All of these dogs died, most of them from symptoms of shock, probably due to cerebral infarcts. One had an acute hemorrhagic pancreatitis, while two showed a very few renal infarcts, but without evidences of sepsis. It is probable in these cases that only a few seeds reached the kidney and the damage done was not sufficient to lower its resistance in any great degree.

I regret that there was not sufficient time at my disposal to follow up this line of inquiry by further experimental study, as it might have a practical bearing on the probability of reinfection of a kidney which had recovered from a previous mild attack of infarcts.

In reviewing the microscopic study of the lesions produced in these experiments, definite lesions, where present, were found identical with those found in our clinical cases of hematogenous infections. In most instances they were found to be due to a plugging of the smaller arteries and capillary vessels with groups of organisms. These minute emboli are later surrounded by an encircling zone of round-cell infiltration. Where the larger trunks are thus involved, triangular infarcts are present; where the capillaries only are involved, minute abscesses are seen throughout the cortex and beneath the capsule. If the process is allowed to go on, the bacterial emboli are rarely recognized; only areas of necrosis and purulent infiltration are found. At a still later stage many of these collections of pus coalesce, forming larger parenchymatous abscesses, which may rupture through the capsule, giving rise to a perinephritis, or into the pelvis, giving the typical picture of pyelonephritis. In some of the cases, the condition has been described as an acute, purulent, interstitial nephritis. In my opinion, all of these appearances are but different stages of the same process.

From a study of the experimental data here recorded, the results obtained by other investigators, and the accumulated clinical experience of the past two decades, we may conclude, first, that during the progress of any acute infectious disease a certain number of microorganisms find their way into the blood-current, and that many of these organisms are excreted through the kidneys. If the number of these organisms is comparatively small, if their virulence is low, and if the kidneys are in a healthy condition, the transit of these organisms through the renal apparatus gives rise to no demonstrable lesion. If, on the other hand, the number of the organisms is large, if their virulence is high, or if one or both kidneys are diseased, lesions are produced which have been described above, and which may, at the outset, produce an overwhelming and fatal toxemia, or may precede more slowly to the development of any of the classical types of renal infection or suppuration; second, that while the disease may be bilateral, in a large number of instances it is unilateral, and that its unilateral character is due to the fact that the affected kidney has lost to some extent its normal resistance to infection, by trauma, abnormal mobility, previous disease, calculus irritation, anemia, passive hyperemia, complete, incomplete, or intermittent hydronephrosis; third, that the presence in the body of a kidney damaged by trauma or disease to such an extent as to lower its normal resistance to infection, is a distinct menace to the individual, in that it possesses a potential susceptibility to even the mildest forms of blood infection; fourth, that while I have been able to produce these lesions in animals by

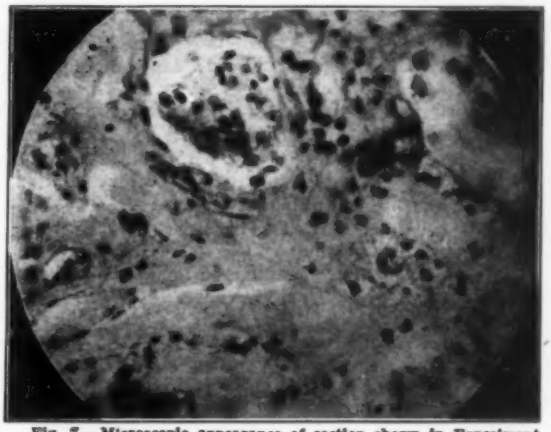


Fig. 7.—Microscopic appearance of section shown in Experiment 37. (High power.)

the *B. coli*, the *Streptococcus pyogenes*, the *Staphylococcus pyogenes aureus*, the *B. typhosus*, the pneumococcus, and the pyocyaneus; in clinical cases I have only been able to isolate the first four of these organisms. It may be added, however, that in a number of clinical cases, the results of my bacterial investigations have been negative, notably in one instance in which the disease was known to be a sequel of scarlet fever.

From this clinical and experimental study of these two types of renal infection, namely the ascending and the hematogenous, I have been impressed with the great difficulty in producing in animals an ascending nephritis, which is in marked contrast to the ease with which it is possible to induce a hematogenous infection. This would seem to corroborate my impression derived from clinical observation, that hematogenous infection was responsible for the greater number of cases of renal sepsis; and would tend to establish the fact to which Israel and others have already called attention, that even in septic conditions of the lower urinary passages, the concomitant renal lesion may be of hematogenous origin.

61 West Forty-Eighth Street.

VACUUM FIXATION OF THE LENS AND FLAP SUTURE IN THE EXTRACTION OF A CATARACT IN ITS CAPSULE*

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No ophthalmic surgeon questions the desirability of extracting a cataract in its unbroken capsule. It is now more the problem of finding an intracapsular method that may be followed by the average operator with equal facility and no more jeopardy to the eye than from the capsulotomy extraction. Skilful operators working under

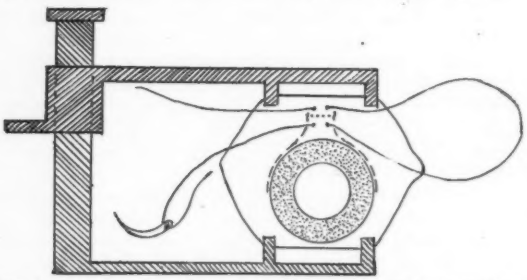

Fig. 1.—Diagram of method of inserting suture in conjunctival flap.

exceptionally favorable circumstances may obtain brilliant results from methods not justifiable for general adoption.

From subsequent experiences with a method of intracapsular extraction which I first described,[1] I believe it includes the necessary ease of performance and the indispensable good results to entitle it to consideration for general use. The steps are as follows:

1. The usual preparation of the patient and eye with the preliminary dilatation of the pupil.

2. Cocain and epinephrin are used for local anesthesia and blanching.

3. The speculum is introduced and section made in the limbus, which should include one-half of its circumference, and raise the conjunctiva above but stop short of severing the flap; a fine silk suture is introduced as shown in Figure 1; then the bridge is cut with one snip of the scissors.

4. Now the iridectomy is performed if a preliminary one has not already been made; a preparatory iridectomy is always desirable.

5. The speculum is next removed and if blood in the anterior chamber obscures the pupil it should be washed out with a gentle stream of warm saline solution.

6. The assistant holds the upper lid with a lid hook and controls the lower with the thumb of his other hand. Under no circumstances must he permit pressure on the globe until the eye is finally closed; the patient at the same time should look straight ahead, *never down*.

7. The cup of the vacuum extractor (Fig. 2) is introduced from the side through the section and gently placed on the anterior capsule over the center of the lens. If the pupillary margin is everywhere free the nurse is directed to turn the cock at the gauge. The vacuum cup will then grasp the cataract most rigidly. Now the lens should be slightly lifted and rotated on its anteroposterior axis to sever the suspensory ligament; then with the upper edge slightly advanced the cataract in its capsule is slowly and gently lifted out through the pupil and section.

8. The suture is immediately tied. Safe from the loss of vitreous, we may now replace the edges of the coloboma with the iris repositor (introducing it to each side of the knot) and perform the usual toilet of the eye without apprehension.

Particular attention is directed to the advantages of the flap suture tied on delivery of the lens in all cases of extraction in capsule. After suturing the section I was gratified with the ease of iris replacement and safety in all manipulations of the eye. The advantages of this securely closed section obtain throughout the entire healing process. When the cornea is bisected, as is necessary in all forms of intracapsular extractions of cataracts, one must admit the great value of a sutured conjunctival flap from a nutritional standpoint. The presence of this suture well above the cornea seems in no wise objectionable.

My first efforts were along the line of making long conjunctival slits by continuing the section upward, but I found it impossible, for lack of room, to deliver the lens thus subconjunctivally with my apparatus. Further experience may perfect the subconjunctival extraction with the vacuum cup, and this perhaps without an iridectomy—an ideal operation indeed.

To remove a cataract in its capsule it has been necessary to either express it by external pressure-manipulation sufficient even in the hands of a careful operator to endanger the vitreous; or to transfix the lens internally with forceps or a sharp instrument, thus necessarily wounding the capsule and thereby possibly freeing the lens and defeating the very purpose of the method; a combination of these two manipulations courts the disadvantages of both methods. Fixing the cataract with the vacuum cup obtains firmer control of the lens than can be done otherwise and without injury to the capsule; it also dispenses with all pressure or manipulation to extract the lens. With vacuum fixation the delivery may be hastened or retarded as desired, and the section may even be "plugged" with the lens should occasion require it.

As regards the necessary vacuum apparatus (Fig. 3) but little need be added to the description already published. The cup, if correctly made, is practically no additional tax on the corneal section; the cataract fits into it when the vacuum is connected, so that to make the cup smaller or more shallow would only diminish its "pulling power." The silver shank is malleable but it would be a doubtful improvement to bend it at right angles, etc., as an interested friend has also suggested. There need be no embarrassment in the introduction of the straight shank extractor and it will not do to endan-

Fig. 2.—The vacuum lens-in-capsule extractor, with handle.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Ophth. Rec., December, 1910.

ger the lumen by unnecessary angles. It is important to choose a tube for connecting the extractor to the vacuum which is sufficiently flexible to permit any desired movements in introducing the cup, and yet it must be rigid enough not to collapse from the greatest vacuum pressure required.

It is a problem for the future to determine the precise amount of vacuum for the fixation of cataracts of various consistencies. Too little pressure will allow the lens to slip from the grasp of the cup, and too much may rupture the capsule and disintegrate the soft lens, or

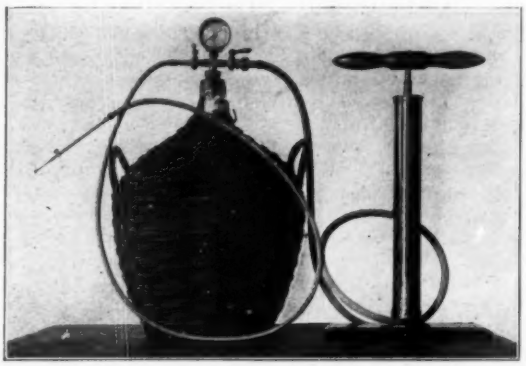

Fig. 3.—The complete vacuum apparatus, with the extractor.

even threaten the integrity of the eye. I exhaust the bottle until my gauge registers from 20 to 25. This has been safe and sufficient for the usual senile cataracts.

A larger experience and its consideration by various operators should determine the future place of this method in ophthalmic surgery.

[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A LATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION DISCUSSIONS."]

A CLINICAL AND HISTOPATHOLOGIC STUDY OF ANGIOKERATOMA OF THE SCROTUM

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Although Cottle[1] described a case of what we now believe to have been angiokeratoma as early as 1877, and Crocker,[2] Colcott Fox[3] and Dubreuilh[4] reported examples of the disease as instances of unusual varieties of verruca a few years later, it was not until the publication of Mibelli's[5] classical description, in September, 1889, that a careful and accurate delineation of the clinical and pathologic features of the malady was available. Mibelli's case was in a young girl, and the disease, which had been present for about five years, involved the dorsal surfaces of the fingers and toes.

The lesions varied in size from that of a hemp-seed to that of the head of a large pin, and were distributed along the course of the superficial capillaries, which were slightly dilated and more prominent than usual. The patient had for several years suffered from recurring attacks of chilblains. Histologically, there were oval or irregularly rounded lacunar spaces in the rete, the majority of which possessed a regularly organized lining. Some of these cavities were partially or completely divided into two or more compartments by thin septa, and the majority of them were filled with serum or coagulated blood. Chronic inflammatory changes were to be noted in the papillary and subpapillary layers, and, in addition, an occasional distended lymph-space, partly filled with red cells, was found. The papillæ in the vicinity of the lesions were hypertrophied, and the interpapillary plugs in some instances extended far down into the corium. The horny layer, which was greatly thickened, exhibited evidence of serous exudation, with the formation of vesicles and medullary cavities. Numerous normal excretory sweat-ducts were present. Mibelli proposed the name "angiokeratoma" for the disease.

Pringle,[6] who next investigated the pathology of the affection, recorded two examples of the disorder. His first patient was an unmarried woman, aged 24. A younger sister was similarly affected. The malady had been present nine years. There was no evidence of ill-balanced peripheral circulation, such as rosacea, blushing, heat, swelling, or hyperidrosis of the extremities, but there was a history of frequent attacks of chilblains. The lesions were distributed over the dorsal surfaces of the hands and feet, and varied in size from a pin point to a split pea. They were dark red in color, and blood exuded when they were pricked with a pointed instrument.

The second patient also was a woman, aged 24, and the malady, which affected the hands and feet only, had first appeared twelve years previously. Pringle found thickening of the corneous layer, and hypertrophy of the stratum lucidum, with large, waxy looking masses of eleidin scattered through the latter. The granular layer was very little changed. At the margin of the diseased area the rete Malpighii abruptly became very

Fig. 1.—Case 2. Angiokeratoma of the conjunctiva.

greatly hypertrophied, the basement membrane remaining constantly present, although broken in some places, and ill defined in others. The surrounding papillæ were enlarged, and proliferative changes were noted in the tips of the elongated interpapillary plugs, but the papillæ near the center of the lesion were flattened out, and the sweat-ducts, in their course through this region, were malformed, or even wholly obliterated. The rete

1. Cottle: St. George's Hosp. Rep., 1877, ix, 758.
2. Crocker: Diseases of the Skin, ed. 1, p. 512.
3. Fox, C.: Westm. Hosp. Rep., 1888, p. 125; illustrated Med. News, 1889, p. 73.
4. Dubreuilh: Ann. de la polyclinique de Bordeaux, January, 1889, i, 50.
5. Mibelli: Gior. ital. d. mal. ven., fasc., 1889, iii.
6. Pringle: Brit. Jour. Dermat., 1891, pp. 237, 282 and 309.

enclosed several large, irregularly oval spaces, as in Mibelli's case, some of which were filled with blood coagulum, while others were empty. The majority of these cavities were oblong in shape, the long axis being parallel with the surface of the skin, and many were traversed by one or more septa. There were chronic inflammatory changes, consisting of copious leukocytic infiltration, marked fibrosis, and general dilatation of the blood-vessels, in the papillary and subpapillary layers.

In Fordyce's[7] case the eruption was confined entirely to the region of the scrotum. The patient was a man of 60, and there was no appreciable vascular disturbance other than a double varicocele, which had been present for several years. On the body were several patches of leukoderma, a coincidence which was also noted in

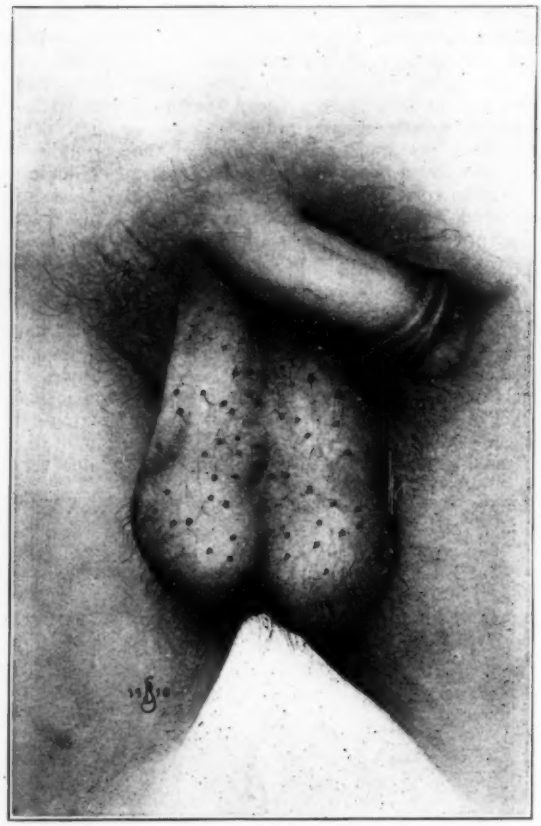

Fig. 2.—Case 2. Distribution of angiokeratomatous lesions on the scrotum.

Zeisler's[8] case. There was no history of chilblains. Microscopically, the lesions consisted of lacunar spaces, lined with a thin layer of connective tissue, and filled with blood. These cavities occupied the papillary portion of the derma, although some of them were completely enclosed in the rete Malpighii. At various points in the epidermis, which was but slightly thickened, tiny lacunæ were found, but while these contained numerous blood-corpuscles, their lining was unorganized, and consisted only of disintegrated epithelial cells. Beneath the lower margin of the rete there was round-cell infiltration, with dilatation of the capillaries, and deposition of blood pigment.

Anderson's[9] patient was a man, aged 39, and there was a history of rectal hemorrhages, and albumin in the urine. There was also present a congenital deformity of the hands, a peculiarity also noted in a mother and sister, and in three out of four of the patient's own children, similar to that seen in Dubreuilh's case. The eruption was distributed over the trunk, limbs and genitals, and the lesions, which varied in size from a pinpoint to a hemp-seed, were of the characteristic purplish-red color, and showed no tendency to coalesce. On section, the papules were found to present a dilatation of the capillaries of the papillary layer, the enlargement of the lumen of the vessel reaching its maximum near the rete, there assuming a more or less spheroidal form, with resulting atrophy, and sometimes complete disappearance of the superjacent Malpighian layer of the epidermis, while the cuticle was either thinned or remained unchanged. The interpapillary processes were hypertrophied. Some of the larger vascular spaces were subdivided by septa.

Judin[10] has described a rather unusual case, occurring in a man 23 years of age. The disease involved the first and second fingers of the left hand, and had

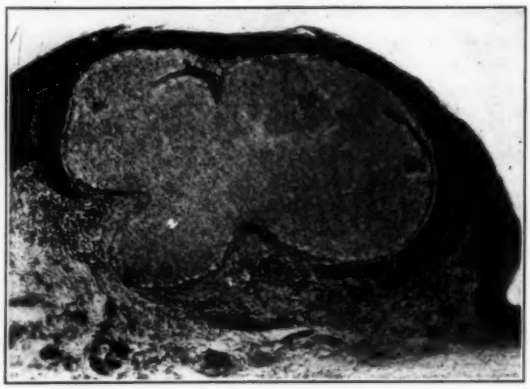

Fig. 3.—A typical angiokeratomatous lesion, showing slight keratoses, elongated interpapillary processes and changes in upper corium. (Spencer Obj.: ⅙; no ocular.)

been present for almost fifteen years. The corneous layer was thickened, but contained no cavities, and there was no serous exudation in the epidermis. The stratum granulosum was hypertrophied, and some of the papillæ were greatly increased in size. The lacunæ, which lay mostly in the upper corium, were much larger than those commonly found in this malady. The surrounding connective tissue was dense, without infiltration. Elastic fibers appeared in the superficial layers in small amount. The caliber of the sweat-gland ducts was narrowed, but the canals persisted. A photograph of the affected hand shows that the lesions more nearly resembled those of angioma than those of angiokeratoma, and, taking into consideration the pathologic findings, it is very probable that the case was an anomalous one of the former disorder.

Guiellot[11] has reported, under the title "Lymphangiectasie du Scrotum," an example of angiokeratoma of

7. Fordyce: Jour. Cutan. Dis., 1896, p. 81.
8. Zeisler: Tr. Am. Dermat. Assn., 1893.
9. Anderson: Brit. Jour. Dermat., 1898, p. 113.
10. Judin: Dermat. Ztschr., 1908, p. 36.
11. Guiellot: Bull. et mém. Soc. de chir. de Paris, xxxiv, 237.

the scrotum in a man 30 years of age, the eruption appearing subsequent to an operation for a tumor of the left thigh.

Buschke's[12] case of angiokeratoma of the scrotum was seen in a man of 58, and there was also present a prurigo of Hebra, which had first appeared one year previously.

In addition to the reports here reviewed, valuable contributions to the subject of angiokeratomata in general have been made by Crocker,[13] Audry,[14] Piffault,[15] Escande,[16] Renault,[17] Joseph,[18] Glawtsche,[19] Wisniewski,[20] Pautrier,[21] de Beurmann and Gougerot,[22] Frohwein,[23] Malinowski,[24] Dore,[25] Beck,[26] and others.

During the past year, I have had under observation two typical examples of angiokeratoma of the scrotum.

CASE REPORTS

CASE 1.—*History.*—C. P. C., physician, aged 61, was referred to me by Dr. F. M. McCallum, of Kansas City. The cutaneous history of the family is negative. The patient is a native of Texas, and a resident of Missouri. He has never had a venereal disease. His general health has been good, with the exception of renal calculus, and, more recently, a small, nodular tumor of unknown nature in the right testicle. His circulation has always been excellent. He has never had chilblains. The superficial capillaries of the scrotum have been dilated and prominent for fifteen years, and the skin lesions have been present for about twelve years. The tumors have increased in number from time to time, and none of them have ever disappeared spontaneously.

Examination.—The patient is a well-built and fairly well-preserved man, 5 feet and 9 inches in height, and weighs 210 pounds. The skin on the trunk and limbs is smooth and unmarked. The integument covering the scrotum is somewhat thinner than usual, and there is a hard, knobby mass on the right testicle, in the region of the epididymis. The superficial scrotal veins are dilated, and distributed irregularly along their course are a number of hard, purplish, oval-topped, shiny papules, varying from the size of a mustard-seed to that of the head of an ordinary pin. When the peripheral circulation is obstructed by constricting the neck of the scrotum, the little growths become somewhat more prominent, although the increase in size is very slight.

Two of the tumors were excised for histologic examination, but owing to the clumsiness of a nurse the material was lost, and I have not yet succeeded in persuading the patient to submit to a second biopsy.

CASE 2.—*History.*—A. M. J., farmer, aged 64, was referred to my associate, Dr. J. P. Kanoky, and me by Dr. R. E. Chaffin, of Belton, Mo. The patient sought relief from a pruritus of the anal region, and it was while treating this condition that I discovered the angiokeratoma on the scrotum. The cutaneous history of the family is negative. The patient is a native of Kentucky, and a resident of Missouri. He denies ever having had a venereal disease. His general health has always been excellent. He has never suffered from coldness of the extremities or attacks of chilblains, but has had a double varicocele for the past twenty years. The patient was entirely unaware of the dilated condition of the superficial capillaries of the scrotum, or of the presence of the accompanying tumors until I drew his attention to them.

Examination.—The patient is a large, powerfully built individual, over 6 feet in height, and weighs 208 pounds. On the right eyeball, at a point just below and to the right of the cornea, is a sharply outlined, oval-topped, shiny, purplish pin-head-sized tumor. It has been present several years, and has given rise to no subjective symptoms, although the surrounding conjunctiva is red and congested. The hands and feet are unaffected, and there are no lesions of any kind on the trunk. Numerous varicose veins are to be seen on both legs. The scrotum is elongated, and there are present many dilated superficial veins. There is a well-marked double varicocele. Scattered over the anterior surface and sides of the organ are a number, about one hundred in all, of the minute, hard, nodular, purplish tumors characteristic of angiokeratoma. In some of the lesions the blood has coagulated and undergone degenerative changes, as only a small mass of dark, gritty material is exposed when the tumor is incised. In others, however, a drop of venous blood exudes when the overlying epidermis is punctured.

Microscopic Examination.—For laboratory purposes, eleven of the lesions were at various times excised, no anesthetic being employed. The growth on the eye, which was successfully removed by Dr. Chaffin, was also examined histologically and

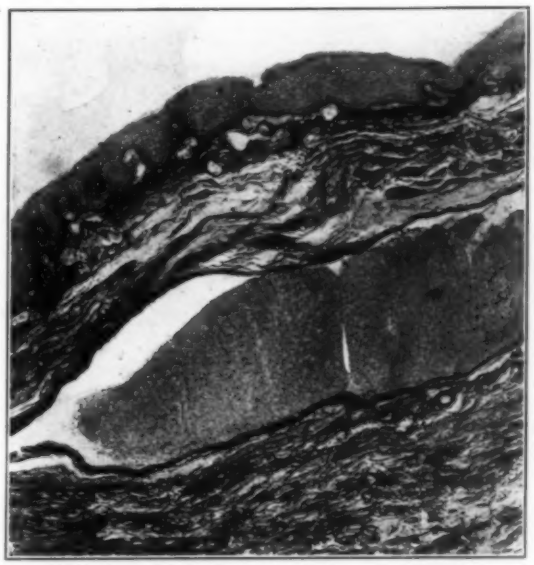

Fig. 4.—Section of normal skin from scrotum, showing character and distribution of elastic tissue (Weigert). (Spencer Ob.: ⅙; no ocular.)

the clinical diagnosis verified. The pieces of tissue were fixed in formaldehyd solution or in alcohol, and a number of serial sections, about 600 in all, were studied. For staining purposes, methylene blue, hematoxylin, hematoxylin-eosin, and Gram-Weigert were used, with Unna's orcein, and Weigert's mixture for elastic tissue. For comparison, normal skin from the scrotum, obtained post-mortem, from a man 60 years of age, and the subject of a double varicocele, was employed. With the ordinary tissue stains, the changes noted were in every respect almost identical with those described by Mibelli, Pringle, and particularly Fordyce; oval or kidney-shaped, connective-tissue-lined and blood-filled lacunæ in the papillary portion of the derma, in some instances almost or wholly surrounded by cells from the hypertrophied rete Malpighii, and, occasionally, partly or completely divided into two or more compartments by thin, delicate fibrous septa; a slightly hypertrophied corneous layer, containing a few irregularly shaped, débris-lined cavities, filled with red or white corpuscles; a few malformed coil gland-ducts; elongated interpapillary processes and dilated capillaries, with fibrosis and leukocytic infiltration in the upper corium. As compared with normal skin, the

12. Buschke: Dermat. Ztschr., x, 193.
13. Crocker: Brit. Jour. Dermat., November, 1891.
14. Audry: Ann. de dermat. et de syph., 1893, p. 381.
15. Piffault: Thèse de Paris, 1892.
16. Escande: Thèse de Toulouse, 1892.
17. Renault: Ann. de dermat. et de syph., 1894, p. 1248.
18. Joseph: Dermat. Ztschr., 1893, p. 16.
19. Glawtsche: Behandl. der Moskauer dermat. u. vener. Gesellsch., Nov. 13, 1898.
20. Wisniewski: Arch. f. Dermat. u. Syph., 1898, p. 357.
21. Pautrier: Arch. f. Dermat. u. Syph., 1904, p. 376.
22. De Beurmann and Gougerot: Ann. de dermat. et de syph., 1905, p. 875.
23. Frohwein: Monatsch. f. prakt. Dermat., 1906, p. 345.
24. Malinowski: Monatsch. f. prakt. Dermat., 1907, p. 439.
25. Dore: Brit. Jour. Dermat., 1903, p. 23.
26. Beck: Monatsch. f. prakt. Dermat., 1909, p. 349.

epidermis at the apex of the lesion was considerably thickened, although not nearly so much as in similar tumors occurring on the hands and feet. In the sections stained for elastic fibers there was a striking difference between the normal integument used as a control and the angiokeratomatous tissue. In the former, the elastic filaments were long, wavy, and sharply defined, and stained evenly and well. Surrounding the vessels there was a close, almost solid network of fibers, the appearance presented being suggestive of a small tube, snugly encircled by numerous turns of fine wire and passing at right angles through a mass of similar material, the strands of which closely encircled and intermingled with those forming the outer covering of the cylinder. In the affected skin, elastic tissue was to be found in all of the regions in which it usually occurs, but the fibers were short, fragmentary, and irregularly arranged, and apparently furnished very little support to the vessel walls. The coats of the capillaries appeared to be normal, but the surrounding network of "braces and guy-ropes," which was so prominent a feature in the control sections, was almost entirely lacking. This held true not only in the immediate vicinity of the tumors, but in the macroscopically normal areas as well. In those sections which contained lacunæ, the elastic tissue immediately surrounding the vessel was apparently normal in amount, although comparatively thinned because of the increased diameter of the

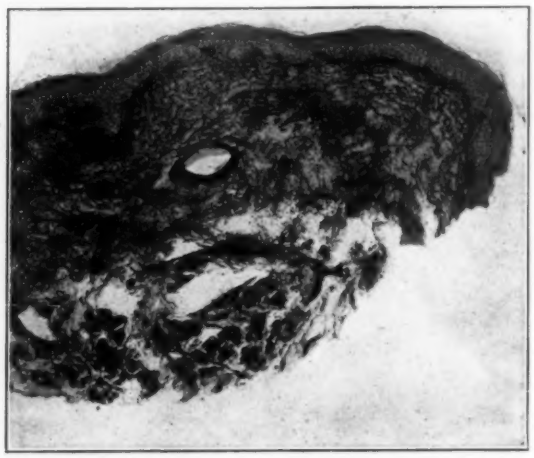

Fig. 5.—Section from Case 2, stained with Weigert's solution, showing deficient amount of elastic tissue. (Spencer Obj.: ¼; no ocular.)

capillary; but the short, slender, poorly stained strands in the immediately adjacent areas appeared even less numerous and weaker than those in the more remote parts of the interlesional regions.

The findings in this case are of very great interest as pointing to a probable explanation of the cause of angiokeratoma. While it is the consensus of opinion among those who have carefully studied the disease that the lesions are the result of capillary dilatation, followed by thickening and other hypertrophic changes in the epidermis, the fact that there must be present some antecedent pathologic condition in either the vessel wall or in the structures surrounding it has never been emphasized, although it was suggested by Fordyce[7] as early as 1896.

The majority of cases of angiokeratoma of the extremities have been seen in young persons, and practically all of the patients were subject to chilblains.

While some of the contributory factors to chilblain are well known, a careful and exhaustive histopathologic study of the affected tissue has never, so far as I can find, been made. We see very few instances of the disorder in the middle west, and I have not yet had an opportunity to secure material from a case. It is probable that alterations are to be found in the elastic elements in this disease also, but whether the changes precede, and, to some extent, superinduce, the localized congestion, or whether they develop as sequelæ, following repeated attacks of the malady, remains to be demonstrated. The matter is certainly worthy of thorough investigation. In those examples of angiokeratoma in which regions other than the extremities are involved, the case records enable us to wholly dismiss chilblain circulation as a possible contributory factor in the etiology. In the majority of cases, however, there is a history of venous obstruction, in the form of a varicocele, tumor of the epididymis, or postoperative venous occlusion, preceding the development of the angiokeratoma, and the evidence is almost conclusive that these little vascular tumors are simply the result of increased blood-pressure in superficial venous capillaries, the walls of which are insufficiently supported. The accompanying changes in the epidermis may be interpreted as Nature's attempt to prevent further dilatation, and possible rupture, of the involved vessels. Inasmuch as there is a fairly uniform insufficiency of elastic fibers throughout the integument of the scrotum, it is probable that the deficiency is congenital in origin.

The result of a careful consideration of the clinical histories of those cases of the disease in which the eruption was more generalized is also very suggestive of the possibility of a similar lack of elastic tissue in the affected areas.

610 Commerce Building.

INTRA-OCULAR NEOPLASMS

WITH A REPORT OF FIVE CASES OF NEOPLASM AND ONE OF SIMULATED NEOPLASM

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BUFFALO, N. Y.

Malignant intra-ocular growths in children are rare, but in the eye-ball as in almost no other part of the body they are encapsulated. If they are discovered early enough, therefore, and enucleation is at once performed, life may thereby be saved. If, on the other hand, their presence is not recognized until the integrity of sclera or cornea has been destroyed and the orbital or extra-orbital tissues has become involved, the invasion of the brain and face with the separation of the cranial bones results in such a horrible method of death that even if the number of cases of retinal glioma is not great, it is worth while to emphasize the characteristic diagnostic features in order that no child may be denied the right of help—while help is yet possible.

The possibilities are that if all cases were reported, their aggregate number might not be so small. Wintersteiner considers that they constitute 0.04 per cent. of all eye diseases. Of 204,612 cases presenting at the New York Eye and Ear Infirmary in ten years, 0.017 were glioma retinæ. It is not at all unlikely that in the country districts or in the small towns remote from large eye clinics, cases which are never reported occur and many more children die than the records would lead one to suppose. The etiology is still uncertain. A number of instances are reported of several cases occurring in a single family, and the assumption has been drawn there-

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

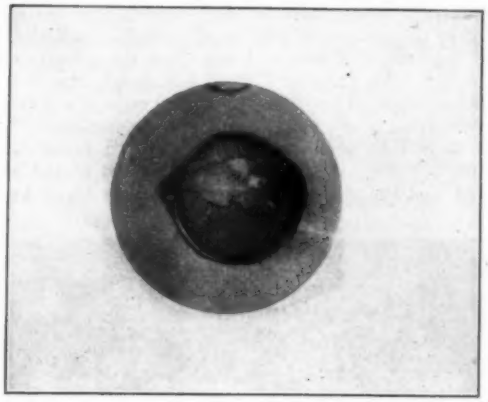

Fig. 1.—Case 1; long band of gliomatous tissue extends from optic nerve through the vitreous to the lens. May not a vestigial hyaloid artery have been the channel of development? No recurrence after nine years.

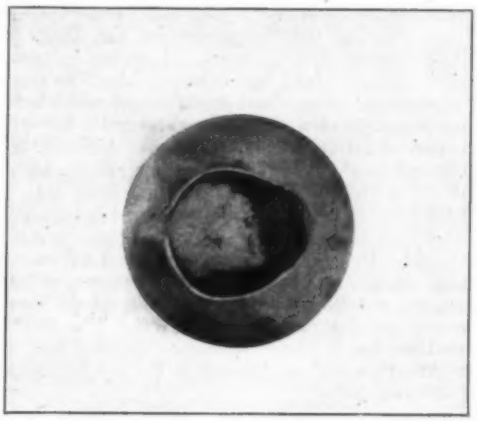

Fig. 4.—Case 3; glioma originating at margin of the optic disk. Beginning staphyloma. Enucleation. No recurrence after eleven years.

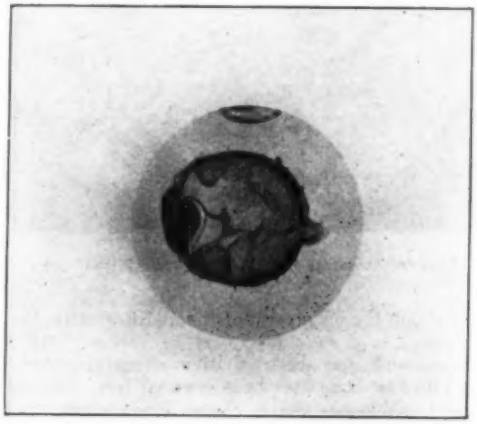

Fig. 2.—Case 2; glioma retinæ; neoplasm absolutely fills posterior chamber of eye. Partial ectasia of sclera with involvement of the optic nerve; enucleation; no recurrence after three years.

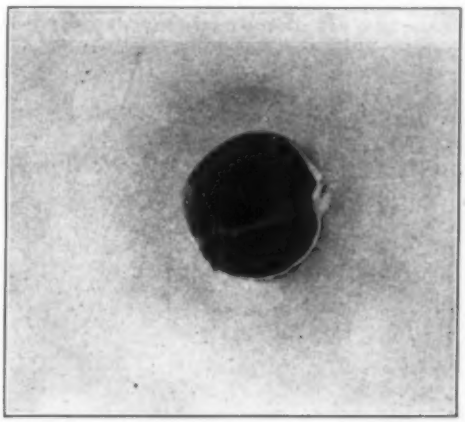

Fig. 5.—Case 4; melanosarcoma; enucleation; no recurrence after a year.

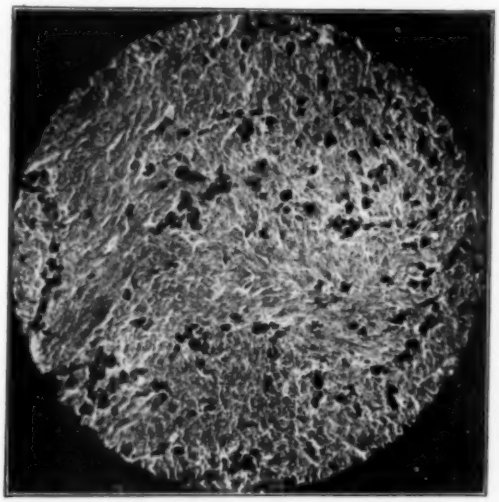

Fig. 3.—Case 2; glioma retinæ. Closely massed round cells, large nuclei; no rosettes found.

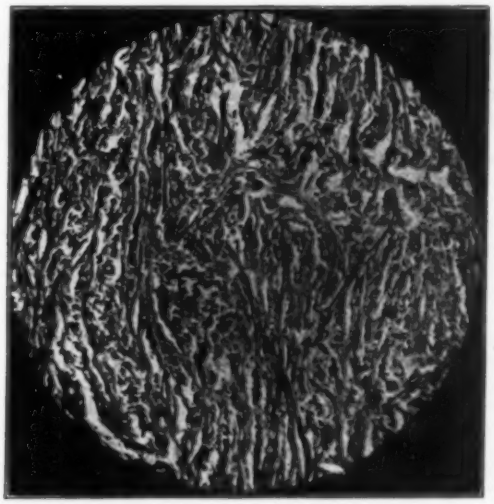

Fig. 6.—Case 4; melanosarcoma. Coarse masses of pigment interspersed with spindle-shaped cells, originating in the choroid.

fore that heredity exercises a controlling influence. Van Hoffman, Jr.,[1] at the last session of the Heidelberg Ophthalmological Society, described a double case of glioma in a mother and her infant child. The mother had been operated on about twenty-eight years before. In the Royal London Eye Hospital reports for 1905, Owen related a similar case. A woman operated on in 1859 later bore a child which also had a glioma, likewise removed. A full sister of the second woman bore two children who had glioma. One was cured by operation, the other died of the disease. The author reports a third family case. He operated on a boy 2 years old in 1872. This boy married at 21 and his wife bore seven children. The second and third both had gliomata at the ages of two years and five months respectively. The first was operated on but suffered recurrence in orbit and both eyes. An operation was refused in the second case and both children died.

Many cases are reported of several children in one family having this disease, but in all of these as in the classical one described in the *Australian Medical Gazette*, in which, out of a family of sixteen children, ten had glioma, it seems far more likely that some congenital

Fig. 7.—Case 5; extradural glioma of optic nerve; enucleation of orbit. No recurrence afterward, although probable later.

fetal defect was present in each of them which made the development of the disease possible.

This is borne out by Fuchs' observations. A mother brought her 4-year-old child to his clinic with an advanced glioma of the right eye. The ball was much enlarged and the neoplasm was growing into the orbit. The entire orbital contents were removed, but the growth recurred and within a year the child died. Some months after the mother brought the second child, who likewise had a glioma which was removed, but which also returned, resulting in the death of the child. Soon afterward she brought her baby, then only a few months old, with a defect of its left eye. In this case it was not a glioma, but a congenital coloboma of the iris and chorioid from which Fuchs concluded that a congenital morbid disposition must have been present which was the basic cause of the glioma in each of the cases.

Recent pathologic studies have added little of value to our knowledge of the intrinsic nature of these tumors. The consensus of opinion seems to be in accord with Cohnheim's theory that an adventitious fetal development of the nerve fiber and ganglion cells results in the establishment of "rests." From these the glioma takes its origin. As Treacher Collins has shown, the glioma cells and those of the undifferentiated cells of the three-months fetus bear a close resemblance to each other, and it is more than possible that the developed tumor bears a direct relation to the halted development of the fetal retina, and the glia and ganglion cells may be in Axen-

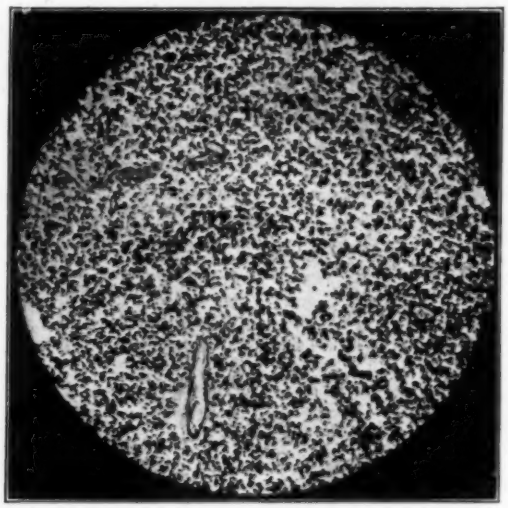

Fig. 8.—Case 5; extradural glioma of optic nerve; spider cells from glia.

feld's opinion the outgrowth of the undifferentiated cells of the tumor.

While much has been written concerning retinal glioma, no new facts have been deduced from our recent studies which to any degree change existing views as to the nature of these malignant tumors. The purpose, then, of this report is not to add to our pathologic knowledge of these rare growths, although the four described are of sufficient interest to merit special reference; but it is to urge that these rare conditions be brought more frequently before the notice of the general profession, because they occur so infrequently that a physician in general practice may allow the possibility of such a growth to pass wholly out of his mind, and because without distinctive ophthalmologic appliances, the recognition is so easy on the part of any intelligent observer,

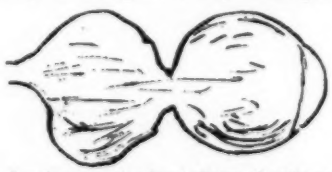

Fig. 9.—Case 5; extradural glioma of optic nerve.

and because by its early recognition life may be saved in a large proportion of cases.

Every case should, therefore, be reported and if possible a section of the tumor made and the character of the neoplasm determined. We shall in this way not only get fuller statistical records as to the actual number of cases which occur, but we may, by calling attention to its manifest characteristics, render it possible to make a

1. Van Hoffman: Ann. d'ocul., 1910, cxliii, 32.

diagnosis before the growth has passed outside of the eye-ball and while enucleation may yet save the life of the child.

The yellowish reflex coming from the depths of the vitreous lead to the common name given to it by the earlier writers of "amaurotic cat's eye"; and if a light is allowed to shine obliquely into the large pupil, the whitish reflex coming from behind the lens together with the age of the patient is almost absolutely characteristic. When such cases present themselves, skilled advice, if obtainable, should be immediately sought. It is quite different in appearance from the whitish color of a cataract or the surface opacity of a leukoma. It may, indeed, be confounded with plastic deposits in the vitreous from the uveal tract, but these are rare in young children; and when they occur, the usefulness of the eye has probably already been lost.

The first three cases reported below are interesting as being typical of this form of neoplasm. The fourth, that having its origin in the optic nerve, is exceedingly rare. All of these cases occurred, as glioma almost invariably does, in children under 4 years of age. The fifth, that of melanosarcoma, was found in a boy of 13. At present there is no evidence of a recurrence. The sixth is of interest as being the result of an uveitis, possibly prenatal, developing a glaucomatous condition of the eye and simulating in appearance an intra-ocular tumor. An exact diagnosis was impossible until the eye had been removed and sectioned. The illustrations give more clearly than any verbal description the exact conditions which were found in the first five cases.

REPORTS OF CASES

CASE 1.—Glioma retinæ; enucleation; no recurrence after nine years.

Patient.—A. F., of Pembrook, Genesee County, N. Y., the daughter of simple, honest, hard-working parents, was brought to my clinic on Nov. 26, 1910. She had nearly reached four years, and although there had been some pecularity noticed in the right eye since she was 1½ years old, it was only during the past four weeks that a marked difference was observed by the parents.

Examination.—The child manifested considerable uneasiness, pulling her hair on that side and occasionally manifesting evidences of discomfort in the eye. The pupil was dilated and maximum and immovable. The cornea and lens were perfectly clear, while a lobulated whitish yellow mass could be seen apparently filling the posterior chamber. It was traversed by fine vessels, giving in places a light reddish reflection. Tension was apparently slightly increased. There was no response to light, and the eye was evidently perfectly blind. The child was apparently in robust health and seemed to be unusually well developed.

Course of Disease and Operation.—The diagnosis of glioma was made and an enucleation advised. This was refused for the time, however, by the parents, and the child did not appear at the clinic until April 3, 1902. The tumor had then markedly increased, the eye-ball was flushed, injected and painful, tension plus 2, the lens pressed forward toward the cornea but still clear and in the upper portion of the mass, which was discernible when seen by reflected light, evidence of hemorrhage which had partially absorbed. It was no longer safe to postpone operative measures, so the child was taken into the hospital and an enucleation immediately performed. The eye was hardened and on section of it the diagnosis of glioma was confirmed. Figure 1 shows the extent to which the growth had filled the eye-ball. On April 15, 1911, the child was again brought to my clinic, when the orbit was found to be in perfectly normal condition and there was no evidence of any return of the growth, so that it may be considered to have been permanently cured by the excision.

CASE 2.—Glioma retinæ; enucleation; no recurrence.

Patient.—C. S., the little daughter of well-to-do parents from another town in Genesee County, was brought to my office by her grandfather, a well-known physician of that place, on Feb. 15, 1908. The little girl was 3 years old. The previous summer she had fallen and struck her nose and from that time a glassy look appeared in the left eye, which seemed to diverge slightly. The day before bringing the child to me, the parents had covered the right eye and had discovered to their alarm that the child was unable to see from the left eye. The little girl had gray eyes, both pupils being normal and both reacting to light readily. There was no history of cancer and the family are quite sure that the child had been able to see out of the left eye for some time after she was born. Lately she had been running against objects and seemed unable to guide herself. For the past week she had been unusually irritable.

Examination.—The eye-ball showed no apparent redness externally; the cornea and lens were both clear, but in the vitreous, flocculent masses that seemed of a creamy whiteness could easily be seen by oblique light without the aid of the ophthalmoscope.

Course of Disease and Operation.—The diagnosis of glioma was made and assurance given that within a short time the eye must be removed. It was, however, two months before final permission was obtained. Then tension had rapidly become increased, the eye being injected. The child was immediately taken to the hospital and the eye-ball removed, the optic nerve being divided as far back as possible. A section of the eye was made after it was suitably hardened, and Figure 2 shows that the vitreous had become completely invaded by the gliomatous mass. Had enucleation been much longer delayed, the growth would have passed through the ocular structures, involving the orbit, when an exenteration of the orbit would have been required, and even that might not have saved the child's life.

CASE 3.—Glioma retinæ; enucleation of eye-ball; no recurrence after eleven years.

Patient.—F. S., of Buffalo, was brought to my clinic at the Charity Eye and Ear Hospital on Oct. 16, 1900, aged 2½, one of eight children. The family was wretchedly poor, often lacking the necessities of life. The youngest of the family, a baby of 6 months, had had spasms from birth. F. had twice had measles; the left eye during the first attack had become swollen with much mucopurulent secretion. He had had a second attack last winter, at which time the eye had become inflamed but apparently had recovered again. The eye began to have a "hollow look," as described by the mother. Three weeks before I saw him, the child had fallen down-stairs, after which the eye-ball began to swell; and during the last three weeks, much of the time the child had held his hand to his head and given evidence of suffering.

Examination.—The cornea and lens were still clear, but a yellowish mass tinged with pink filled the vitreous. The red fundus reflex could still be seen around the margin of the enlarged pupil. The pupil did not react to light and tension was increased.

Operation.—An immediate enucleation was advised and made. The diagnosis of glioma on section was confirmed and the mass was found already occupying the vitreous space.

CASE 4.—Melanosarcoma in boy of 13 years; enucleation; no recurrence. As differentiated from these cases, all of which seem to have originated in the optic nerve, and in none of which was the patient older than 4 years, this case is of interest and value.

Patient.—C. B., of Falconer, Chautauqua County, New York, a schoolboy of 13 years, was brought to my office by his parents, who gave a record of good heredity. The patient had, however, not been seeing from the right eye for some time.

Examination.—In this eye (the right) he was found to have light perception, recognizing only moving shadows, with entire loss of the temporal field, while the light could be perceived on the nasal side. In the left eye, with a plus .50 D. Sph. plus .50 D. Cyl. axis 180, vision equaled 20/20; external chorioidal degeneration with scattered pigment masses was found to be present. A grayish elevated mass was discovered on examination with the ophthalmoscope, occupying nearly a

third of the nasal side and leaving a wide margin which was undisturbed between the growth and the optic disk.

The diagnosis of malignant neoplasm was made and the parents assured that enucleation must necessarily be made. The eye, however, was kept under observation for nearly a year before it was removed, when the growth which is shown in Figures 5 and 6 was shown to be a melanosarcoma.

Case 5.—Intradural glioma of the optic nerve; exenteration of the orbit. Glioma of the optic nerve is exceedingly rare. The report of the following case will be of value.

Patient.—Baby S. was brought to my office by Dr. William M. Mehl, of Buffalo, for consultation because of a marked exophthalmos. She is the little daughter of parents in moderate circumstances living in Allegheny County. One year previously, the mother noticed that the child frequently rubbed the right eye and shortly afterward it was seen to protrude. This protrusion had continued, slowly increasing to the time of examination.

Examination.—There was no evidence of pain and the child was well nourished. All the movements of the eye were still retained and notwithstanding the excessive proptosis, the child was still able to close the lids completely over the ball. It would seem that the lids had grown with the ball so as to accommodate themselves to the excessive protrusion. The eye could not be returned to the orbit with pressure, thereby excluding the possibility of an orbital vascular growth as the cause of the protrusion. There was no pulsation of the eye, nor was it apparently irritable or reddened. The pupil responded to light slightly. The vessels in the fundus were dark and tortuous, and a view of the disk, as far as it could be obtained in a nervous, unsteady child, showed a woolly and uncertain outline. The possibility of a gliomatous involvement was not considered because of the great rarity of tumors of this kind and it was thought that possibly a postauricular abscess or cyst might be causing the protrusion. The child, therefore, was placed under chloroform and an opening was made by the side of the eye-ball and the finger inserted, when it was found that a large roundish growth, apparently coming from the optic nerve, occupied the larger portion of the orbit. Incision was made into this growth, when it was found filled with a translucent honey-like yellowish mass, the tumor being separated by membranous septa. It was evident, therefore, that the growth was gliomatous.

Operation and Course of Disease.—The entire mass was removed on Aug. 13, 1910, by Dr. Mehl in my presence. Figure 8 indicates the character of the substance which was found to constitute the tumor. So extensive was the involvement of the optic nerve that the entire exenteration of all of the tissue in the orbit was made. It seemed inevitable that the growth must recur and an unfavorable prognosis was made. In March, 1911, however, the child was again seen and the tissues of the orbit had filled in apparently normally. The lid was not greatly sunken, and there was no evidence whatever of malignancy in the new tissue. It is quite possible, however, that ultimately the growth may recur.

Case 6.—Iridochorioiditis with occlusion of the pupil simulating an intra-ocular neoplasm.

Patient.—E. H., of Fillmore, New York, was referred for consultation by Dr. S. Mitchell of Hornell, in January, 1910. From the October previous the child had been suffering with the right eye. One night a sharp pain developed in the eye and the next morning the eye-ball was very red and swollen. The patient was not seen by Dr. Mitchell for some months; then the eye was found deeply injected, the pupil contracted and filled with a plastic gray mass, and lens and iris pushed forward until it was in contact with the cornea. The eye-ball was intensely hard and evidently exceedingly painful. Dr. Mitchell had advised enucleation. The eye was evidently entirely blind.

Examination.—The conditions present when the boy was brought to my office were quite the same as those which Dr. Mitchell had found with the exception that they were intensified. The grayish mass in the pupil had recently become more marked. Glaucoma following a general uveitis occurring in a child three years old and involving only one eye, all led to the suspicion that a glioma was present and was rapidly developing.

Operation.—The eye-ball was removed by Dr. Mitchell and a section made, when it was found that there was no tumor in the eye whatever. The glaucoma was the result of the obstruction of the filtration angle and of the intense iridocyclitis, which in all probability had existed for a long time before Dr. Mitchell was consulted.

The case is important as one simulating an intra-ocular tumor and showing the great difficulty in diagnosis prior to enucleation. Happily in either instance, the eye had to be removed and diagnosis was one of secondary, although scientific, interest.

454 Franklin Street.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

THE IMMEDIATE REMOVAL OF TRAUMATIC CATARACT *

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BUTTE, MONT.

A paper relating to the treatment of eye injuries, to be properly understood, should be confined to specific cases.

The impossibility of the universal application of any single line of treatment is well known to all surgeons, but especially so to those most frequently called on to treat eye injuries. In these cases it is often the most experienced who find it hardest to decide on the line of treatment.

Sweet, in his report[1] of 702 cases, says: "Unlike other operative procedures on eyes in which there is uniformity of technic, each foreign body injury must be studied as a separate and distinct condition."

Bowman[2] is quoted as saying: "I have never laid down a method of extraction of cataract universally applicable. I always operated as seemed best at the time for the individual treated."

Another difficulty in obtaining uniform results is the difference not only in classes of people, but classes of injuries. Sweet's report, which probably fairly represents the proportion of cases in the large cities, gives 81 per cent. magnet cases, while my cases are in almost inverse proportion. He gives 5 per cent. lens injuries Here, among the penetrating wound cases the proportion of lens injuries is several times this percentage.

When the patient is seen immediately or soon after the injury, after he has recovered from the shock and before the local reaction has made careful work almost impossible, the lens should be extracted. This may be done under a local anesthetic, though a general anesthetic is preferable in many cases. If local reaction is already marked, the ophthalmologist should wait about four to six days when it subsides, then remove the lens before the secondary inflammatory symptoms have become severe.

A general anesthetic is necessary at this time. Though the breaking up of the lens and washing it out has been a recognized procedure for some time, a regular cataract extraction, combined or simple, has in many cases been more successful. If there is a large central corneal wound or if the lens is already badly mutilated, cutting it up with a cystotome and washing it out is the operation of choice. Unusual care must be exercised in doing this, as the zonula, if not already ruptured, may

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Sweet: Third Series of Cases of Injuries from Foreign Bodies, Tr. Am. Ophth. Soc., 1909.
2. Wood's Ophthalmic Operations, p. 1155.

very easily become so in these cases, or if the wound extends into the vitreous there is likely to be some mixture of lens and vitreous. To wash this lens matter out, especially when there are fine particles of rock in the anterior chamber, often requires considerable force. Several times I have found it difficult to be certain just what the escaping fluid consisted of.

In children and young people, if there are no positive indications of a foreign body in the lens, a safer and more simple procedure is to extract by suction with a needle.

An ordinary hypodermic needle will answer in children. It is introduced well into the lens, care being taken not to pass into the vitreous. If the needle is turned so its opening can be watched during the suction it is under better control.

In older patients or when particles are in the lens, the regular combined or simple extraction is preferable. Though some may, and with apparently good reason, urge against an iridectomy at this time, as a rule I prefer it, especially in severe lacerated cases. As yet I have seen no bad results that could be attributed to this, while several simple extractions would have done better had iridectomy been performed. If there is a foreign body imbedded in the iris, iridectomy becomes necessary. The incision in the cornea should be made as near as possible to the imbedded body in the iris. After extraction I fill in between the lids with germicidal ointment (1-5,000 mercuric iodid) using the standard strength if the eye is perfectly clean, or the strong (double this strength), when infection is probable. The formula of this ointment is:

R	Gm. or c.c.		
Hydrarg. iod. rub.	06		gr.i
Pot. iod.	3		gr.v
Aquae q. s.		or	
Adipis lanæ	30		ʒi
Petrolati albi q.s. ad.	300		ʒx

It has the advantage of being non-irritating at this time, a powerful germicide not precipitated by alkalies or albumins, thus of decided advantage over corrosive sublimate. Though in a normal eye this ointment may be irritating, in an injured eye, especially during the acute stage it acts otherwise. Besides being a germicide, it prevents adhesions of the lids and dressings and is easily applied. It also prevents that dry sticky sensation.

If this does not control infection, 25 per cent. argyrol in many cases does. Of course, one must not rely too much or too long on any particular remedy. The pupil must be kept dilated, the ointment used once, twice or oftener each day and any other treatment as indicated. Salicylates the first three or four days I believe to be of much value.

CASE 1.—Man aged 50, blasted December, 1908; each eye contained several pieces of rock in anterior chamber and lens, besides innumerable specks in the cornea. On the fifth day general anesthetic given; the left anterior chamber irrigated to remove loose specks, and then lens cut up with cystotome and irrigated. When about three-quarters washed out, vitreous appeared and operation was stopped. In right eye, all loose foreign bodies were washed out, then iridectomy done and lens extracted by regular combined method. Very little vitreous was lost. Patient left hospital eleven days after operation; was able to distinguish objects in sixteen days. The eye from which lens was fully removed made much more rapid progress and required much less attention. Man is now wearing + 10.00 D. S. lenses and able to make his living working around the mine.

CASE 2.—Man aged 25; back fire from rifle caused corneal wound and opaque lens. Patient was seen on fifth day; tension high, pain severe, lens much swollen. Twenty-four hours' treatment failed to relieve. Cornea was incised with knife; needle introduced into lens and most of it extracted. Uninterrupted improvement followed. Vision 20/20 with his glasses.

CASE 3.—Man aged 25; steel penetrated lens, entering vitreous; large central ragged corneal wound. The other eye had been enucleated some years before from a similar accident, so it was decided best to take what was supposed no extra risks; magnet extraction, wound cleaned and touched with electrocautery. The swelling of lens with its slow exudation prevented permanent closure of corneal wound for some weeks. There probably was some vitreous exudation as well. It is now two years since injury; eye is shrunken to about nine-tenths normal size; pupil occluded; has light projection. Though an irito-ectomy may restore some vision, this case should be carefully compared with the following one, all conditions being very similar.

CASE 4.—Man aged 24, injured same week as above patient, ragged wound entirely across center of cornea. Piece of steel was extracted with magnet from posterior of lens. General anesthetic was given and lens removed by combined extraction operation. Recovery was uninterrupted; patient working in three weeks. Vision after three months with a + 9.00 + 3.00 was 20/30.

CASE 5.—Man aged 32; iron in eye-ball, its presence not suspected for eighteen days. Local anesthetic was given, magnet extraction done, and lens cut up and washed out through the same wound in lower part of cornea. In three weeks patient returned home, with eye in nice condition but only light perception and projection as yet. Secondary cataract will be operated on later. As infection was already markedly advanced in this eye, the result was unusually good.

CASE 6.—Man aged 53 blasted, seen by me on the fifth day; both eyes full of fine rock. Right eye had rock in lens and cornea. Left eye was still very much swollen, so a thorough examination was impossible. General anesthetic was given and at least five pieces of rock removed from anterior chamber and lens of right eye; lens removed by simple extraction. Patient was taken care of by his physicians, Drs. Brook and Lanstrum in Helena, until able to be moved here three weeks later, when right eye was found in good condition but for secondary cataract and the foreign bodies around the eye-lids. Foreign bodies being now visible in left lens, it was removed by simple extraction under general anesthetic. Recovery slow but satisfactory.

CASE 7.—Man, aged 33, came in office while this paper was being completed, injured two hours. Iron 3 by 9 mm. imbedded in posterior of eye-ball was extracted by magnet through lens and original corneal wound. Anterior chamber immediately filled with blood so no attempt was made to remove lens.

The above cases have been selected to illustrate better than can be described the salient points. As a general rule, notwithstanding the extra traumatism, the seemingly increased risk of infection, the removal of an injured lens immediately or a few days after its occurrence is followed by less reaction, less pain, less difficulty in maintaining dilatation of pupil and a very much more rapid recovery than if the case is left to Nature or future operation. In all properly selected cases and especially among the working classes or those unable to lose much time, the immediate removal of the injured lens as above suggested will give the best results.

Those of limited experience in this field, when not certain they are giving their patients the best possible treatment by immediate operation, by all means should not proceed, but treat carefully, study and watch developments as long as they continue favorable.

[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A LATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION DISCUSSIONS."]

THE PRODUCTION AND CONCENTRATION OF A SERUM FOR ROCKY MOUNTAIN SPOTTED FEVER

PRELIMINARY NOTE *

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Ricketts and Gomez[1] have demonstrated that the horse is susceptible to inoculation with spotted fever virus, and that after recovery the serum has protective properties similar to the blood of guinea-pigs which have recovered from the disease. Two years ago one of us, associated with Ricketts, succeeded in obtaining from a horse a large amount of serum, which was used to a limited extent in the Bitterroot Valley. Owing to the small number of cases on which it was used, the results have so far thrown no light on its efficacy.

At the request of the counties of Ravalli and Missoula in western Montana, the necessary funds having been furnished by these counties, we proceeded to inoculate two horses with 200 c.c. of spotted fever virus each. The virus was divided into two parts in each case, one part being inoculated into the jugular vein, the other part subcutaneously back of the shoulder. This proceeding was adopted, because it is still undetermined which method is the more effective one. Three weeks after the first inoculation, Horse 1 was given another inoculation of 460 c.c. virus, the method of injection being both intravenous and subcutaneous as before.

The first injections produced a fever in both horses. Horse 1 had a temperature of 103.5 F. on the fourth day after inoculation. Blood was taken on each of five days, while the temperature was above normal, and each lot inoculated into two guinea-pigs. The blood taken on the fourth day, when the temperature had reached the maximum, was infective for guinea-pigs, and was transferred several times from the first guinea-pig, to prove that the infection really was spotted fever. The blood taken on the other four days proved non-infectious. This fact possibly bears out the statement of Ricketts that the concentration of the virus varies greatly in different susceptible animals. We interpret the results as indicating that the concentration of the virus in the horse is very low, and a sufficient amount of infectious material was contained in the blood of the horse only on the day of the highest fever.

Horse 2 showed a temperature curve similar to that of Horse 1. The maximum was reached on the fifth day (103.4 F.). We drew blood from this horse on four days of the fever, but missed drawing blood on the day of the highest temperature. The guinea-pig inoculations from the blood proved negative.

The protective value of the serums from both horses was tested by injecting guinea-pigs of an approximate weight of 250 gm. with 1 c.c. of virus and varying amounts of the serum, diluted with sufficient physiologic salt solution to make the volume of the serum injected uniformly 3 c.c., excepting when 5 c.c. of serum were given. The virus and the serum were injected separately into the peritoneal cavity, and not mixed before injection. We believe that this makes a more rigid test than if the serum and virus were mixed before injection, eliminating a possible restraining effect of the serum on the live virus. No preservative was added to the serums in these experiments.

Without giving the results in detail, we found that the serum had no protective value, even in as large a dose as 5 c.c. of undiluted serum, if the serum was drawn earlier than seven to eight days after the temperature of the horse was normal. Tests with a serum drawn from Horse 1 eight days after the temperature had become normal, protected guinea-pigs only if 5 c.c. of serum were injected with 1 c.c. of virus. Serum from Horse 2, drawn ten days after normal temperature had become constant, protected guinea-pigs, if 1 c.c. was given.

After Horse 1 had received the second injection of virus, there was no temperature reaction, excepting that within two hours after the injection, there was a temporary rise of two degrees, accompanied by profuse perspiration, possibly due to shock or an anaphylactic reaction. The potency of the serum drawn twelve days after inoculation had increased, so that 0.5 c.c. of serum gave complete protection against 1 c.c. of virus. Partial protection was evident in doses as small as 0.125 c.c., the fever appearing on the ninth, tenth or eleventh day.

Successful attempts have been made in concentrating the serum of Horse 1 after the second injection, and of Horse 2 after the first injection. The method of concentration is similar to the one in general use in the concentration of diphtheria antitoxin. The greater part of the antibodies is evidently connected with the pseudoglobulin fraction, as in diphtheria antitoxin. The concentrated serums protected in the following amounts:

Serum 1 B. .01 c.c. protected against 1 c.c. virus
Serum 2. .05 c.c. protected against 1 c.c. virus

Preliminary experiments on the value of immune horse-serum as a curative agent are encouraging and will be continued in the near future.

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* From the Serum Division of the Memorial Institute for Infectious Diseases, Chicago.

1. Ricketts and Gomez: Jour. Infect. Dis., 1908, v, 221.

THE PROPHYLAXIS AND TREATMENT OF SUMMER DIARRHEA

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There is hardly any subject in pediatrics about which more has been written than the one which I am to treat in this paper. This disease, or group of diseases, has suddenly come to be considered of national importance, to be compared in its ravages only with tuberculosis, and worthy of the full attention of national boards of health and of economists. It is, therefore, very clear that, in the short space of this paper, there can be no thought of covering the treatment of a disease of this magnitude, and that I must confine myself rather to a broad consideration of the principles involved. It would also seem that at the present time the subject is in such a chaotic state—for we can find authority for almost every conceivable method of feeding—that it would be untimely and to little purpose to go beyond the consideration of general principles into the realm of detail.

In the prophylactic treatment of summer diarrhea the greatest stress has been laid on the importance of nursing, and rightly so, as the statistics of all lands are in accord that, however we may explain the fact, the nursing baby is best safeguarded against gastro-intestinal disturbances. This, then, is the corner-stone of prophylaxis. For the infant depending on cow's milk for nourishment, however, and thereby gravely exposed to danger, we have concentrated our efforts in making a safe food available. This work includes the inspection of farms, of the milk in transit and in the stores, in requirements

as to pasteurization or sterilization, in advice as to the preparation of the food, of the care of the milk in the home, of the bottles, and all other appurtenances which come into contact with the milk in its preparation for the baby. As all know, the propaganda to instill this teaching into the minds of the public has been taken up by municipalities, and by medical and philanthropic organizations throughout the United States. There is an implied if not an actual inference, that if all babies which are not breast-fed can be provided with pure and properly prepared milk, the greatest problem of infant mortality will have been solved, in that summer diarrhea will fade into tranquil obscurity. Now, although this pure milk "campaign" is praiseworthy, and we should strive to provide clean and suitably prepared milk for the infants, is it probable that if we succeed in these efforts, we shall escape the annual visitation of diarrheal troubles, and are we wise in concentrating our attention so exclusively in this direction? It is a long and a thankless task to enter into the discussion of the causes of summer diarrhea, and yet, if we would consider the prophylactic treatment of this disease, we must consider, if but briefly, its etiology. The difficulty in unraveling the causative factors and of comparing statistics compiled from various quarters is enhanced, as the case may be, by the inequality (1) in the number of infants artificially fed, (2) in the intelligence of the mothers, (3) in the purity of the milk, (4) in the variation of the food constituents, (5) in the variation of the social and housing status of the family, (6) in the difference in the temperature and humidity in the localities in which the results were obtained. Without going far afield in this subject, it may, to my mind, be safely stated that there are many considerations which must lead us to conclude that the summer heat in itself is a most important etiologic factor. The conception of heat and variations in temperature as a cause of summer diarrhea in infants was first suggested in this country by Rush in 1789, and has quite recently been brought forth again. The high mortality among infants in our cities, for instance in New York, where the milk-supply is exceptionally good, as compared with the mortality in other large cities, for example London or Berlin, where the supply is certainly not superior but the summer far cooler, is an argument in favor of this proposition. Another argument is the parallelism that has been brought out between excessively hot days and excessive infant mortality, a point well illustrated by Willim's chart for Breslau and Finkelstein's chart for Berlin. A further point to be considered in this relation is the fact known to us all, that, other factors being equal, a cool summer means a low infant mortality and a very hot summer a high mortality. I do not wish, however, to enter into a full discussion of this question, but rather to draw attention to the fact that it is an element to be reckoned with both in etiology and in prophylaxis. There are, therefore, three main phases to be considered in the prevention of this disease: the first—first by right of importance—namely, breast-feeding, it is not necessary for me to dwell on, nor on the second, that of pure and properly prepared milk, except to mention that I believe too little attention is being paid to the care of milk in the home of the baby. The third factor, that of combating the high temperature of summer, has not received sufficient emphasis to allow us to pass it by with mere mention. We should insist that in hot weather infants should wear light clothing and very little of it (the woolen abdominal band is not necessary), that they should be bathed once a day and sponged many times a day and that they should be given cool water frequently. It would be well if we could illustrate this teaching in the dispensary by giving each infant a bath, and by keeping the waiting-room cool, where the mothers are compelled to wait holding the infants in their arms. This cooling of the room for a couple of hours can be accomplished, I think, without great expense, by passing a current of air from an electric fan over a block of ice. The day nurseries should likewise be artificially cooled. Furthermore, opportunities should be provided for the tenement-house baby to escape from the enervating atmosphere of the room or street, and for this purpose large airy buildings, such as schools, armories, and churches, could well be utilized as recreation centers. We shall be forced to realize more and more that the question of infant mortality, including that of summer diarrhea, is no longer a purely medical problem, but, like tuberculosis, is sociologic, and must be combated by improving the social status of the masses.

When we turn from the prophylactic treatment to the treatment of the disease itself, we find but little unanimity of opinion. It is, however, generally realized that the attacks which apparently come on so suddenly in the warm weather are generally preceded by mild attacks of indigestion or dyspepsia in the months preceding. A baby who has been the subject of a mild derangement should be fed with care throughout the summer months. But here we meet a stumbling-block, for what is meant by careful feeding? I have but to mention that the proteids, the fats, the sugars, and the salts have each in turn been accused of being the disturbing element. An infant so predisposed should sedulously be guarded against overfeeding, and in my experience a high percentage of fat or of sugar is most to be feared. There is, at present, a wholesome fear of feeding too much fat to babies, so that this can be passed over with mere mention; but for the most part, the amount of sugar given is disregarded. Mothers and physicians alike, in detailing the preparation of the baby's food, do not consider it of sufficient importance even to mention the percentage of sugar that is being added. Nevertheless, most infants react to sugar to a surprisingly exact degree; when little sugar is given the bowels become constipated; by adding sugar, generally from 4 per cent. to 6 per cent., this condition is relieved. If we add still more sugar diarrhea is produced, or even without this addition in some cases. The reaction of the intestine to sugars, to some forms more than to others, is more rapid and constant than in the case of fats. It is generally the infants who have suffered from attacks of dyspepsia due to these factors, who are doomed to an acute relapse in the summer.

As soon as the diarrhea begins, castor oil should be administered and food should be withheld for at least twelve hours. During this period water should be given frequently, by mouth if there is no vomiting, by rectum if vomiting is present. The best treatment for the vomiting is lavage and starvation. If the infant presents symptoms of marked loss of fluid, such as a dry loose skin, parched tongue, depressed fontanel and sunken eyes, salt should be added to the water, so that a hypotonic solution of 0.3 to 0.4 per cent. is given. If we make use of a normal solution edema is apt to ensue. Fever should be controlled by means of occasional baths at 85 F., and frequent packs at this temperature or lower, if necessary. There is no medicine, except perhaps a stimulant in case of collapse or severe prostration, which has any value; bismuth, the astringents, and the opiates are ineffectual.

One of the fundamental principles of the feeding is that it should be begun in very small quantities, a teaspoonful every two or three hours. Another rule is that fats and sugars should be avoided. We must not forget, however, that the various food constituents differ in their action according to their correlation. For example, sugars when given with dextrin or starches lose their laxative effect. The same is true for both fats and sugars in combination with proteids. It is due to these considerations that we can begin with the feeding of the so-called "casein milk" of Finkelstein, which I saw successfully used last summer in his clinic in cases of summer diarrhea or, as he terms it, "intoxication." This is a food containing a high percentage of proteid, a moderate amount of fat, and but little sugar and salt. If we have not this food at our disposal, skimmed milk may be given in small doses. Whey is very unreliable. It is very often difficult to decide how rapidly the amount of food should be increased, for we certainly cannot judge by the stools or by the temperature curve alone, but must also take into consideration the general condition and appearance of the patient. Frequently, this period of scant feeding is, through excessive caution, prolonged for many weeks, until there is imminent danger of marasmus or atrophy following the acute attack.

In the active treatment, as well as in the prophylactic treatment of this disease, the control of the atmospheric heat is of great importance. The room should be kept as cool and airy as possible. The hospital ward should be cooled by means of ice and electric fans as mentioned before; indeed, it is worth considering whether it is not feasible to provide babies' wards in model hospitals with a cooling apparatus, which seems as indispensable for infants in this climate as the heating apparatus in winter. Office buildings now have cooling facilities; why not babies' wards?

Although older children do not suffer from summer-complaint to the same degree as infants under one year of age, nevertheless they are subject to intestinal disturbances in summer, to enteritis and to dysentery. For such children I have found the following treatment of great value: Following a preliminary dose of castor oil and subsequent starvation, as in the case of infants, we have recourse to a diet rich in proteid matter and poor in the fermentable sugars. In this connection I may add that the diarrheal stools of infants and children in most instances give evidence of fermentation as shown by an acid reaction. This diet is based on Finkelstein's principles, and is being used in his clinic. The child is given cream cheese, cottage cheese or pot-cheese twice a day on well-cooked toast, also well-ground meat once a day with a small amount of soup and vegetable. No milk is given; the only fluids allowed are a little soup and water, with or without the addition of proteid such as white of egg. I have seen children under 2 years of age with dysentery, having mucus and blood in their stools, rapidly get well on this diet. The same is true of older children with mild cases of diarrhea. A great advantage in this treatment is that the child does not lose much strength and weight, and that convalescence is short. Carbohydrate foods, such as cereals, are gradually added to the diet. I may state that cream cheese constitutes an excellent article of diet for children as soon as they are old enough to take any solid food. I can say this unreservedly, as for some months I have been giving it to 150 children in an infant asylum with which I am connected. Furthermore, I have found it an excellent diet for such children as have an idiosyncrasy for milk.

I realize that a great deal is omitted in this paper, which one might properly expect to have been considered, and that the details of treatment are scanty. It has been necessary for me, however, to confine myself to the general principles involved in the treatment, to outline the basis on which it is grounded, and to leave the details to another time.

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DISTORTIONS OF THE VISUAL FIELDS IN CASES OF BRAIN TUMOR

(*Second Paper*)

DYSCHROMATOPSIA IN RELATION TO STAGES OF CHOKED DISK *

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In a former paper,[1] introductory to this series, it was related that reliable perimetric observations had been possible in 123 patients in a series of 200 cases of cerebral tumors. These had shown normal fields in twenty-seven instances, a tendency toward hemianopsia in forty-two, and color interlacing or inversion (dyschromatopsia), with more or less symmetrical constriction, in fifty-three instances. It is our present purpose to give specific illustrations of the cases showing dyschromatopsia and to correlate them, so far as possible, with the stages of an advancing choked disk, especial emphasis being laid on the field deviations coincident with, or antecedent to, the earliest ophthalmoscopic changes.

There have been ten cases of tumor which have shown color-interlacing, either in the total absence of a choked disk or with a very incipient process observable in the eye-grounds. As the reader will surmise, therefore, these represent cases in which definite localizing (irritative) symptoms have led to a precocious surgical intervention and consequently to the best operative results. Thus in these ten cases the tumor was enucleated in five instances, was exposed and considered irremovable in one, and was unlocalizable and not disclosed by the operation (decompression) in four. In all of them the normal color relations were restored after the operation.

It is possible for convenience in this analysis to subdivide these cases which have exhibited early color distortion into three groups: (1) those in which, in the total absence of even an incipient grade of choked disk, interlacing was bilaterally equal; (2) those in which definite interlacing was unilaterally represented; (3) those in which interlacing coincided with a low grade of choked disk, but disappeared after a decompression, before the subsidence of the edema. Illustrations may be given of each of these groups.

GROUP I. DYSCHROMATOPSIA ANTECEDENT TO ANY OBSERVABLE CHANGE IN THE NERVE-HEAD

The following case shows that an enormous growth, if slowly advancing and unaccompanied by coincident cerebral edema, may progress for years without producing any of the usual pressure manifestations whatsoever, and that distortion of the color-fields may be the earliest indication of their appearance.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. The first paper in this series (The Johns Hopkins Hospital Bulletin, June, 1911) gave some statistical studies of the results of perimetry in our series of 200 cases of brain tumor. The succeeding three papers will be devoted, respectively, to the binasal, bitemporal and homonymous hemianopsias observed in these cases.

CASE 1.—Surgical No. 25,396. *Enormous endothelioma of right hemisphere causing focal epilepsy and hemiparesis but no pressure symptoms except a slight grade of color interlacing.*

History.—Dr. W., aged 49, was admitted Feb. 4, 1910. The patient received a blow on the cranial vertex in 1898, and six years later began having attacks of focal epilepsy, starting with an aura in the left foot. There was gradual loss of control of the left foot and hand, with marked spasticity. An examination in April, 1909, disclosed no pressure symptoms whatever, aside from the fact that though the color-fields were wide there was some slight interlacing of the blue and red outlines. During the succeeding ten months the patient, who was leading an active life, was repeatedly observed, but there was no apparent advance in the symptoms. He had never had a headache; never any nausea; never diplopia. There was some fulness of the retinal veins but no edema. Visual acuity was normal. The fields on Feb. 4, 1910, showed practically the same conditions as on the examination ten months before (Fig. 1).[2]

Operation.—On February 5 and February 9, in two stages, an endothelioma weighing 198 gm.—the largest tumor in our series successfully extirpated—was removed from the right hemisphere. In view of its large size one would have expected at least some pressure encroachment on the upper fibers of the radiation which would have produced a "slant" at least of the contralateral (left) fields in their lower portion.

February 25, the fields showed a complete restoration of the normal outlines. August 26 (six months later), the normal relations persisted (Fig. 2).

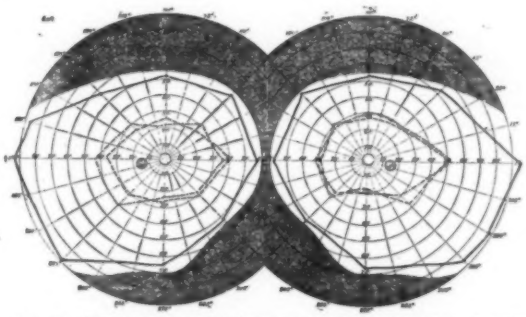

Fig. 1.—Charts of Case 1 before operation, showing characteristic blue and red interlacing with some constriction of color-fields.

There are two other cases in the series in which Jacksonian attacks represented the chief clinical manifestations of the lesion. Both came under observation at an early stage, before the occurrence of any recognizable changes in the eye-grounds. The distortion of the fields was more marked, if anything, on the side contralateral to the lesion in both cases.

CASE 2.—Surgical No. 18,602. *Glioma originating in left motor cortex, causing focal epilepsy with color-interlacing as the only evidence of pressure.*

History.—Miss T. M., aged 22, was admitted Dec. 31, 1905. Attacks of focal epilepsy with an aura in the right foot, succeeded by weakness of the leg, followed a cranial injury received six months before. There were no pressure-symptoms, except the very definite interlacing (at that time not recognized as an evidence of pressure). The ophthalmologic condition was normal in all other respects. No trace of neuroretinal congestion or swelling. On January 10 a glioma the size of a pigeon's egg was removed from the mesial end of the left precentral convolution.

It is to be noted that the right field (Fig. 3) shows some tendency toward an upper temporal defect which may indicate a beginning implication of the left visual pathway, though the defect is not bilaterally represented. An extradural clot formed in this case, and on the day after the operation the patient gradually became stuporous and a definite choked disk was then found. The flap was reelevated and the clot removed, but she did not survive. There are no postoperative fields, therefore.

CASE 3.—Surgical No. 23,150. *Syphiloma of right inferior parietal lobule causing focal epilepsy with sensory aura in left hand. Color-interlacing without choked disk.*

History.—Mr. A. S. J., aged 47, was admitted Nov. 3, 1908. The patient had had attacks of focal epilepsy beginning with a sensory aura in the left hand for the previous six months, with some right-sided headache.

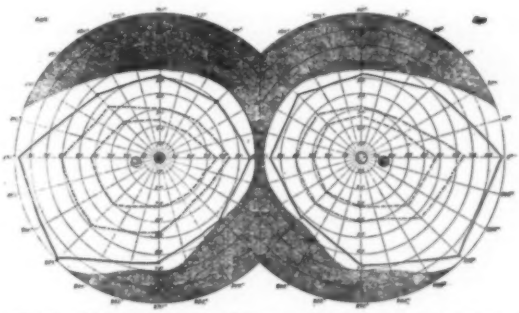

Fig. 2.—Charts of Case 1 after operation, showing restoration of normal color relations after tumor removal.

Examination of Eyes.—Pupils unequal; right 7 mm., left 4 mm.; irregular contour. This condition was noted a year before present symptoms were observed. Right pupil reacted promptly to light; left sluggishly. Consensual reaction poor from right to left; fundi negative; acuity normal. Fields (Fig. 4) showed typical interlacing, with superior constriction (due to deep-set eyes and overhanging brows), particularly of the left form field, and an almost total inversion of blue within red on the right. It is interesting that the patient is a buyer for a large drygoods establishment and is considered an authority on colors.

Operation.—November 7. A large fibrous tumor (histologically a syphiloma) was disclosed and removed from the right inferior parietal region. There were no postoperative complications. Inequality of the pupils had practically disappeared by November 10, though the right remained somewhat larger than the left.

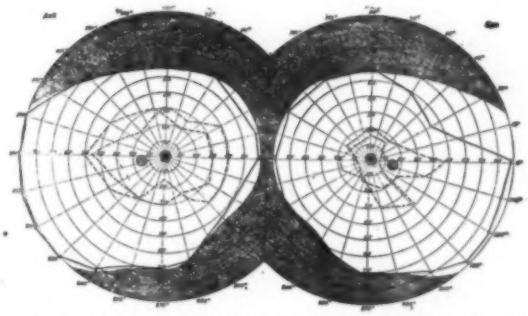

Fig. 3.—Charts of Case 2 before operation. Color-interlacing and constriction more marked on the right.

November 29 the color-fields were found to have resumed their normal relations without interlacing, though a slight irregular constriction persisted.

GROUP II. UNILATERAL DYSCHROMATOPSIA ACCOMPANIED BY AN INCIPIENT GRADE OF CHOKED DISK

A number of examples of unilateral dyschromatopsia accompanied by an incipient grade of choked disk occur in the series, both conditions being more marked on the side of the lesion. Two illustrations will suffice. In the

2. In all of these charts the usual dot and dash indicates the blue; the broken dash, the red periphery.

first case it will be seen that the interlacing was much more definite homolateral to the lesion. In the second case the degree of interlacing was about equal on the two sides, but there was more constriction on the side of the lesion. These and other cases suggest that the degree of interlacing may possibly prove to be of some localizing value, so far as the hemisphere involved is concerned, in very much the same way as the relative degree of choking in the two eyes may sometimes prove of value in determining the side of the lesion.

CASE 4.—Surgical No. 24,408. *Gliomatous "hypertrophy" of median right precentral convolution with focal epilepsy, headaches and color-interlacing, more marked on the side of the lesion. Incipient unilateral choked disk.*

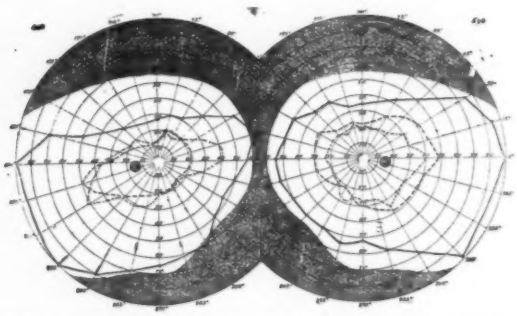

Fig. 4.—Charts of Case 3 before operation, showing interlacing, with almost complete inversion for the right eye. Superior flattening of the fields due to overhanging brows.

History.—Mrs. W. J., aged 33, was admitted July 12, 1909. Focal epilepsy with motor aura in left hand, of five years' duration; attacks more frequent and more severe of late, usually ending in a general convulsion; some headaches and occasional nausea; some slight subjective blurring of vision; progressive weakness of left hand and arm.

Ophthalmologic Examination.—Pupils equal; reactions normal; no oculomotor disturbances. Fundi: Some fulness and tortuosity of the veins and slight haziness of nasal margin on right; no measurable swelling; left fundus normal. The fields (Fig. 5) show characteristic blue and red interlacing, limited to the right eye, though the left shows a tendency in this direction. Acuity 20/20, both eyes.

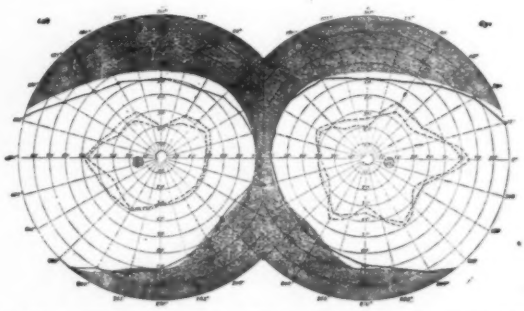

Fig. 5.—Charts of Case 4 before operation, showing interlacing confined to the right field, the side of the lesion.

Operation.—July 14. Extirpation of a large, firm and sharply outlined gliomatous tumor limited to the central portion of the pre-Rolandic gyrus; flap replaced without drainage; no subsequent complications. There was a slight postoperative edema of the disks in both eyes, with considerable haziness of the nasal borders.

The fields August 9, the day of the patient's discharge, showed a restoration of normal color relations, though there was still some constriction and irregularity of outline.

June 18, 1910, the patient returned for examination. She was well. The eyes were absolutely negative, with unusually wide color-fields (Fig. 6), with regular outlines and normal relations. Acuity: Right, 20/20; left, 30/20.

CASE 5.—Surgical No. 27,397. *Tumor (uncertified) of left hemisphere, producing focal epilepsy. Homolateral color-interlacing and choked disk, disappearing after decompression.*

History.—Mrs. H. J., aged 49, was admitted Feb. 27, 1911. Attacks of focal epilepsy in right arm for several years, becoming severe, with occasional general convulsions. Some weakness of hand and foot of late, and thickness of speech. Headache, referred to left parietal region; never severe.

Examination of Eyes.—Pupils equal; reactions normal. Oculomotor: Some nystagmoid twitches both to right and left. Fundi: Right, practically normal with exception of some fulness and tortuosity of veins; left, obscuration of nasal margin and physiologic cup by edema; no measurable swelling; veins full and tortuous. Acuity: Right, 15/15; left, 15/25. Fields (Fig. 7) showed some constriction with definite interlacing on the left and irregularity of color outlines on right (presaging interlacing?).

February 28. Osteoplastic exploration revealed increased tension; no cortical lesion. Subtemporal decompression produced a complete subsidence of symptoms.

March 27. Examination revealed the following conditions: Fundi: Right, normal; left, slight haziness persisted on nasal margin and lamina cribrosa was still obscured. Acuity: Right, 15/15; left, 15/10. Fields (Fig. 8): Normal relations restored, though there was some constriction of all boundaries.

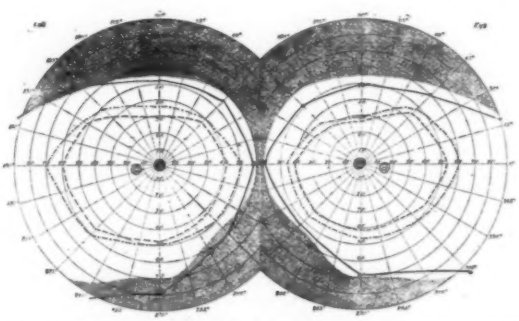

Fig. 6.—Charts of Case 4 ten months after tumor removal, showing unusually wide and non-interlaced color-fields.

GROUP III. DYSCHROMATOPSIA ACCOMPANYING EARLY STAGES OF CHOKED DISK. RESTORATION OF NORMAL COLOR OUTLINES BEFORE THE COMPLETE SUBSIDENCE OF THE EDEMA

These cases, of which there are several in the series, tend to show that the color-interlacing is a more delicate manifestation of pressure than an observable degree of neuroretinal stasis and edema. A single illustration will suffice.

CASE 6.—Surgical No. 23,559. *Meningeal angioma of right temporal lobe. Recent headaches, color-interlacing and incipient choked disk the only symptoms of tumor.*

History.—H. R., colored, aged 39, was admitted Feb. 1, 1909. Transferred from Dr. Barker's service for decompression. Severe, constant temporal headaches for a few weeks. No localizing symptoms of tumor recognized.

Examination of Eyes.—Negative in all respects except for some haziness of disk margins, more evident on the left, where there was a measurable swelling of 1 D. The fields showed typical color-interlacing (Fig. 9).

Operation.—February 3. Left subtemporal decompression disclosed an unsuspected angiomatous tumor of the temporal meninges. There was complete postoperative subsidence of all symptoms. On February 11 the measurable swelling had disappeared. On February 15 the fields (Fig. 10) had resumed

their normal outlines. On March 2 the disks, though fairly clear, still showed some slight engorgement and hyperemia.

PERIMETRIC DEVIATIONS IN RELATION TO GUNN'S SEVERAL STAGES OF CHOKED DISK

During the past few years there has been an increasing tendency on the part of those interested in the pathogenesis of choked disk to regard the process, from its incipient condition of vascular injection to the terminal secondary optic atrophy, as merely stages of one and the same underlying pressure disturbance. The studies of Alfred Saenger, Sir Victor Horsley, Leslie Paton, George E. de Schweinitz, Eugen von Hippel, Franz Schieck and others, based largely on the investigation of cases after surgical relief from pressure, have contributed much toward the common acceptance of the views originally advanced in large part by Schmidt-Rimpler and Manz.

One particular source of confusion was the tendency of ophthalmologists to designate the early condition as an "optic neuritis" and to reserve the term "choked disk" for the later manifestations, when a measurable swelling of the nerve-head occurs.

Marcus Gunn, in his discussion of J. S. Risien Russell's paper,[3] did a service in subdividing the gradations of choked disk—called by him "tumor papillitis"—into stages. These stages are necessarily more or less arbitrary and possess no sharp lines of distinction, but

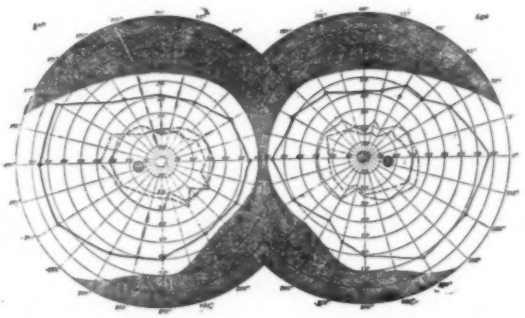

Fig. 7.—Charts of Case 5 before operation, showing interlacing confined to the left field, the side of the lesion.

they are useful in conveying to others, without a long description, some fairly definite idea of the severity of the condition which is being considered. They have been adopted with some changes, by de Schweinitz in his admirable paper read before this section two years ago.[4] We too have ventured to make some modifications, though the main subdivisions remain about as Marcus Gunn originally gave them. To the mere description of the ophthalmoscopic picture we have added a note on the perimetric deviations and the changes in visual acuity which may be expected in each stage. It is important to bear in mind that the changes in one eye are apt to be in advance of those in the other. This is particularly true of such supratentorial lesions as are unaccompanied by ventricular hydrops—cases, in other words, in which the tension in one hemisphere is greater than in the other.

Stage 1.—This shows some hyperemia of the disks with haziness of the upper and lower margins where they are crossed by the main vessels. This haziness gradually spreads over and obscures the nasal half of the disk, the temporal edge remaining clear. There may be some narrowing of the physiologic cup and the veins are slightly full and sinuous. Visual acuity is not affected. Color-interlacing is usual, and together with the retinal change may be more marked on the side of the tumor, if cerebral. A prompt restoration occurs after decompression.

Stage 2.—The swelling of the papilla, now obscuring the temporal as well as the nasal margin, has become measurable, the physiologic cup is filled in, and there may be an extension of the edema to the surrounding retina. There is an outspoken stasis with tortuosity of the veins. There is apt to be a subjective lowering of acuity. Interlacing is present with constriction. Rapid return to the normal follows relief of pressure.

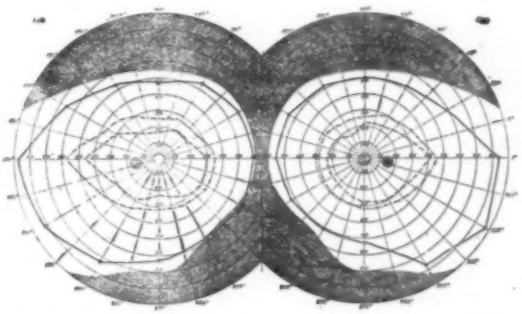

Fig. 8.—Charts of Case 5 after decompression, showing restoration of normal color-relations. Some neuroretinal edema persisted in left eye.

Stage 3.—There is a further swelling of the papilla, which is now definitely prominent and spreads over a larger fundus area. Its margins are lost. Fine striations appear in the edematous retina, particularly between disk and macula. Retinal hemorrhages may occur and venous stasis is marked, the congestion showing itself in the dilated palpebral venules as well as in the eye-grounds. Measured acuity is usually below normal. There is constriction of all fields, often with color inversion, but normal relations are restored, and usually normal acuity, after adequate decompression.

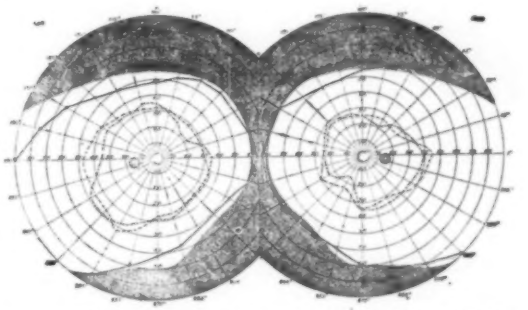

Fig. 9.—Charts of Case 6 in Gunn's Stage 1, showing bilateral interlacing as plotted before decompression.

Stage 4.—The papilla becomes more prominent and, losing its reddish color, appears more opaque. Hemorrhages may be more numerous and larger, and exudates similar to those seen in nephritis may be present on the disk or surrounding retina. Many cases, however, particularly those of slow onset, remain free from hemorrhages and exudates. There is new-tissue formation, giving a fluffy appearance to the disk. Acuity of vision is considerably lowered. There may be transient amaurotic periods. There is further central constriction and colors can often be recognized only in large sheets. Complete pressure relief, such as may be afforded by tumor extirpation, or by

3. Russell, J. S. R.: The Indications for Operation in Cases of Intracranial Tumor, Brit. Med. Jour., Oct. 26, 1907, p. 1120.
4. De Schweinitz and Halloway: The Operative Treatment of Papilledema Dependent on Increased Intracranial Tension, Therap. Gaz., July 15, 1909.

adequate decompression in a case with symptoms of short duration, may lead to an almost total restoration of vision, but if the condition at this stage has been of long standing and there is an excess of new tissue formation there may be a further postoperative lowering of vision as the edema subsides.

Stage 5.—There is a gradually decreasing vascularity of the papilla. Its surface becomes paler than normal and shows the fine, fluffy appearance due to new tissue formation, the contraction of which tends to produce a subsidence of the measurable swelling. This may disclose the shimmering atrophic disk as through a mist. The arteries tend to become of smaller caliber and the thickening of their perivascular lymph sheaths is apparent. This is the stage of atrophy with supposedly (Gunn) inevitable blindness. Acuity is practically reduced to the counting of fingers. There are frequent periods of temporary amaurosis. There is apt to be achromatopsia in one or both eyes, though small form fields (often requiring disks larger than 0.5 cm.) may be plotted. These often show a tendency toward a binasal hemianopsia with loss of central vision. Some vision may be preserved by operation.[5]

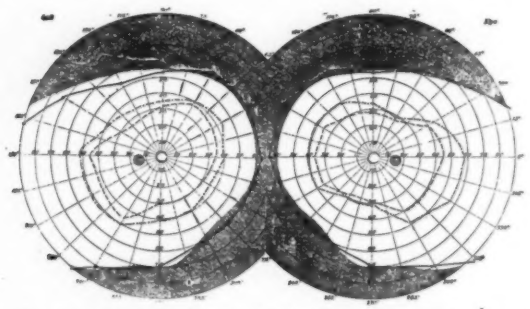

Fig. 10.—Charts of Case 6, showing return of normal relations two weeks after decompression.

This digression into the question of choked disk has been made for the purpose of allowing us to correlate the perimetric disturbances, more particularly the color-alterations, which are observable in these different stages. We have already seen that color-interlacing may actually precede the onset of the earliest stasis phenomena; also that in conditions of incipient though demonstrable edema of the nerve-head the color-interlacing disappears after a successful decompression before the ophthalmoscopic picture of the disk has entirely cleared. We have, in other words, already given records of perimetry not only for Gunn's first stage of choked disk, but also for certain antecedent states. Though these cases of early interlacing are the more important ones, it seems advisable to follow the perimetric changes through the succeeding stages.

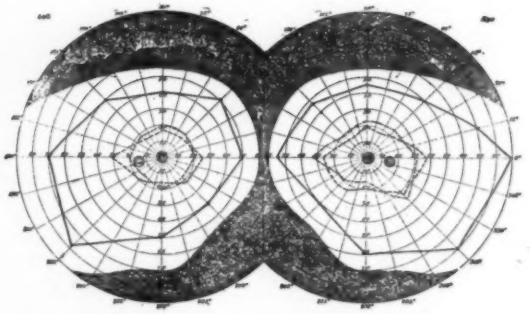

Fig. 11.—Charts of Case 7 before operation, showing interlacing and constriction accompanying Gunn's second stage of choked disk.

The following two cases have been chosen to illustrate Marcus Gunn's Stage 2, for they clearly show that the perimeter may be of almost greater value than the ophthalmoscope in determining the degree of severity of the process. The ophthalmoscopic picture in the first patient (Case 7) was clearly that of a low-grade, though long-standing, process, and yet the fields and measured acuity before and after operation show that the nerve-head had suffered permanent damage. In the second patient (Case 8) the condition of the fundi, with hemorrhages, a prominent papilla, marked perivascular streaking and some new tissue formation, would doubtless have been regarded as well along toward, or actually in, Stage 3, but the process subsided after the operation, leaving normal acuity, normal field outlines and no observable trace of its preexistence in the eye-grounds.

The case of long-standing but low-grade pressure, illustrating the perimetric changes observed in Marcus Gunn's second stage of choked disk is as follows:

CASE 7.—Surgical No. 25,339. *Endothelioma of left cerebellopontine angle. Choked disk. Interlacing of color-fields. Suboccipital exploration with removal of tumor.*

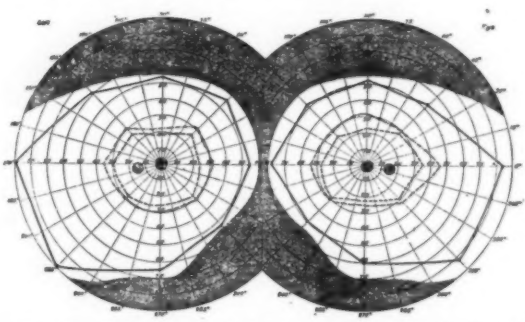

Fig. 12.—Charts of Case 7, showing postoperative restoration of normal color-relations before complete subsidence of second stage of choked disk. Some persisting constriction.

History.—Mr. A. J. B. was admitted Jan. 24, 1910. Symptoms of four years' duration were first noticed as an unsteadiness in gait, following an injury to the head. About a year before admission double vision occurred, and has persisted. For the previous six months there had been increasing deafness in the left ear, subjective tinnitus, vertigo, and, of late, considerable headache.

Examination of Eyes.—Pupils equal with normal reactions. Ocular movements normal, though convergence was rather poor and slow. There was marked nystagmus, coarse to the left, rapid to the right. Fundi: Right disk showed obscuration of the nasal margin with swelling of 2 D.; temporal margin fairly clear. There was marked tortuosity of the vessels, though they were not especially large. There were no hemorrhages or exudates. Left disk showed the same appearance, but here the swelling was only 1 D. Visual acuity (uncorrected): Right, 15/30; left, 15/50. Fields January 25 (Fig. 11) showed constriction of all boundaries with color-interlacing.

Operation.—January 27. Enucleation of left cerebellopontine tumor.

February 10. The fields showed widening of the color-boundaries but on the left colors remained somewhat interlaced. There was still some haziness of the nasal margins, though the swelling was less.

5. There are other subdivisions which might well be made, notably a Stage 6 descriptive of the fundus change which persists after total loss of vision in unoperated cases. It would be well also to incorporate with each stage a description of the tell-tale residual of the original process which follows complete postoperative subsidence of the edema.

February 25. The fields (Fig. 12) showed restoration of normal color relations and widening of form fields. Some haziness of the disks persisted. Acuity: Right, 15/20; left, 15/40.

CASE 8.—Surgical No. 22,602. *Unlocalizable cerebral growth with choked disk and interlacing. Subtemporal decompression. Return of normal relations.*

History.—Mr. C. A. S., aged 32, was admitted June 30, 1908, complaining of persistent headache for two years with occasional projectile vomiting, loss of memory and change in disposition. He had had what he called "spells" with mental confusion and dim vision, but with no loss of consciousness.

Examination of Eyes.—Pupils rather widely dilated; equal; react to light and on accommodation. Ocular movements normal. Fundi: Right disk swollen about 4 D.; marked edema of the nerve-head, extending well out into the retina. Retina had a peculiar watered-silk appearance. A single exudate on the disk; no hemorrhages. Arteries were somewhat small; veins very large and tortuous. Left disk also measured 4 D.; picture practically the same as in the right eye, except that there was one hemorrhagic area on the upper and outer side of the disk. Vision (subjectively obscured): Right, 20/20; left, 20/15. Fields showed typical color-interlacing (Fig. 13) with but little constriction. Enlargement of blind spot.

Operation.—June 7. Left subtemporal decompression.

July 8. Both disks showed a number of small recent hemorrhages, but the swelling had receded to 3 D. and the retinal edema had subsided.

July 15. Subjective symptoms were entirely relieved; fields showed widening of the color boundaries with disappearance of interlacing (Fig. 14). Vision, 20/15 for each eye. Fundi

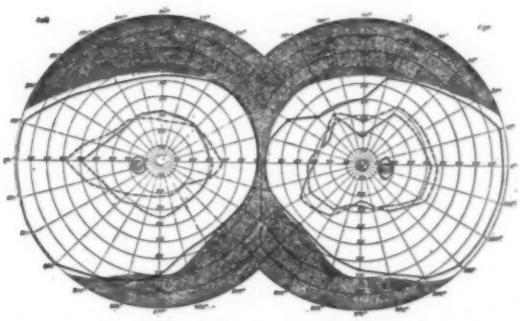

Fig. 13.—Charts of Case 8 before operation, showing interlacing without constriction accompanying a condition of the papilla approaching Gunn's Stage 3.

showed swelling of 1 to 2 D. and some perivascular streaking; hemorrhages practically absorbed. The patient was discharged.

March 22, 1909. "It would be a problem to decide whether he has ever had choked disk" (Bordley).

The following case illustrates a further advance in Gunn's third stage, possibly approaching or actually in Stage 4; and yet beyond interlacing, which disappeared after the operation, and some persisting constriction, normal visual conditions were restored before the subsidence of the swelling:

CASE 9.—Surgical No. 26,390. *Presumed cerebellar tumor with choked disk in advanced Stage 3 and interlacing. Postoperative restoration of normal color-relations.*

History.—Mr. G. W. H., aged 38, was admitted Aug. 12, 1910, giving a history of pressure-symptoms of a year's duration; at present severe suboccipital headaches, vomiting, ataxia, staggering gait, etc.; subjective blurring of vision for four months; diplopia for two months; attacks of temporary amaurosis frequent of late.

Examination of Eyes.—Pupils equal; reactions normal; palsy of right abducens; marked nystagmus, fine to right and coarse to left. Fundi: Right, swelling of 3 D.; disk fluffy and whitish; outlines completely obscured; cup filled and new-tissue formation apparent; veins tortuous; several hemorrhages undergoing absorption. Left, swelling 5 D, appearance much the same as on right, but there were several more recent hemorrhages near the disk. Fields (Fig. 15) showed some constriction, especially on left, with interlacing. Acuity: Right, 15/30; left, 15/20.

Operation.—August 13. Suboccipital decompression. Rapid subsidence of general pressure-symptoms.

September 3. No diplopia; no observable weakness of right abducens; coarse nystagmus persisted. Fundi: Marked recession of edema, which was now barely measurable. Disks fluffy and opaque, with outlines still hazy; considerable tortuosity of vessels; hemorrhages practically absorbed; veins somewhat full and sinuous; arteries likewise; some evidence of new tissue in cup and along vessels. Fields August 29 (Fig. 16)

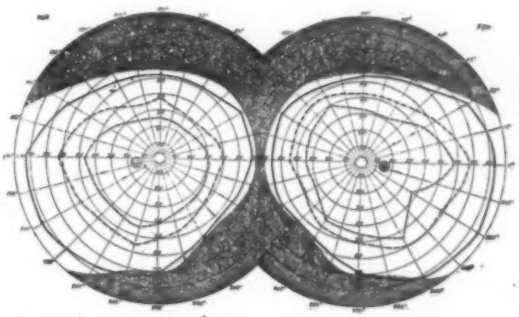

Fig. 14.—Charts of Case 8 thirty-eight days after operation, with normal color-relations and wide fields.

showed resumption of normal color-relations, with some form of constriction persisting.

The following case (Case 10) is one well advanced in Gunn's fourth stage. The neuroretinal changes were not pronounced, but the perimetric deviations betray the severity of the process. There was marked constriction and interlacing, which was restored after operation about to the usual degree compatible with the advance of a choked disk to this stage.

CASE 10.—Surgical No. 25,292. *Cerebral tumor, with choked disk in Stage 4. Interlacing and constriction, with postoperative restoration of color-relations.*

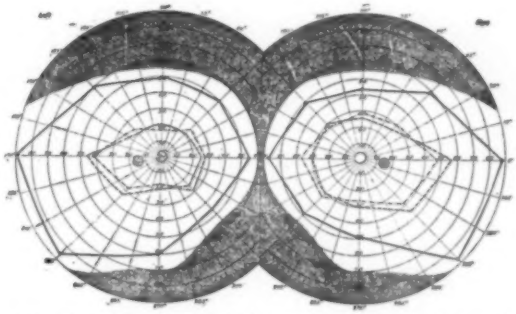

Fig. 15.—Charts of Case 9 before operation; interlacing with some constriction accompanying a condition of the papilla in an advanced third stage of choked disk.

History.—Mrs. E. F., aged 40, was admitted Jan. 14, 1910, complaining of right-sided headaches for one year following trauma; nausea and vomiting of late; failing vision for eight months; transient periods of hemianesthesia, with some awkwardness in movement and paresthesias on the left; periods of temporary amblyopia during severe headaches.

Examination of Eyes.—Pupils equal and reactions normal; movements normal. Fundi: Swelling 3 D.; edges lost and cup much narrowed. One hemorrhage on right. No exudates;

no excessive venous tortuosity. Fields (Fig. 17) showed constriction for form and colors with interlacing (1 cm. disks). Acuity: Right, 10/30; left, 20/30.

Operation.—January 17. Combined exploration and decompression over right hemisphere revealed marked tension, but no surface lesion.

January 28. Fundi: Practically no measurable recession of edema. Fields showed restoration of normal color-relations, but remained constricted.

February 7. Fundi: Swelling had receded to 1.5 D. in each eye. Fields (Fig. 18) showed some widening, but otherwise remained as on January 28. Acuity lowered to right, 9/30; left, 15/30. Subjective condition much improved. Patient discharged.

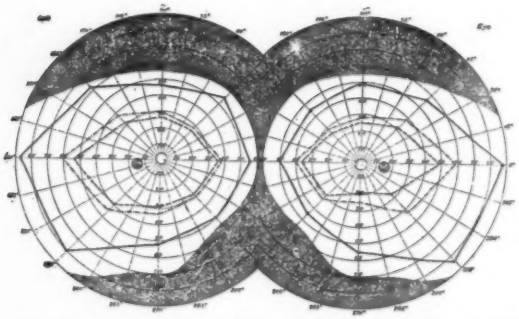

Fig. 16.—Charts of Case 9 sixteen days after operation, showing restoration of normal color-relations.

June 16. The patient returned for observation, as protrusion had become somewhat tense of late. The patient's general condition was much improved; she had gained in weight, etc. Fundi still showed about 1 D. of swelling; disk margins obscured; perivascular streaks apparent. Acuity: Right, 15/40; left, 15/20.

September 27. The patient was readmitted, owing to appearance of localizing symptoms (astereognosis, etc.). Fundi showed an increase of swelling to 2 D.; new tissue formation abundant in cup and along vessels; distention of veins marked. Fields: Color-interlacing had reappeared on the left. The right field remained about as on February 7 (cf. Fig. 18).

The patient subsequently developed a left homonymous hemianopsia, which is another story.

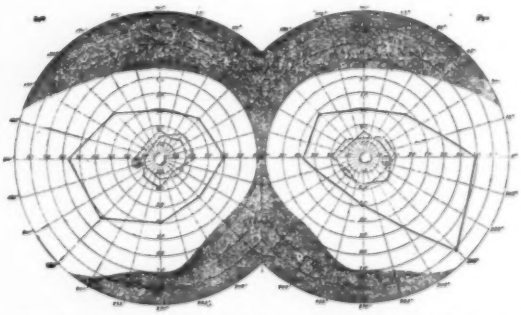

Fig. 17.—Charts of Case 10 before operation, plotted with 1 cm. disks, showing marked constriction and interlacing—Gunn's fourth stage.

Two cases have been selected to illustrate the perimetric deviations in Gunn's fifth stage. The first of these was a case of cerebral tumor, with the changes more advanced on the side corresponding with the involved hemisphere. In the second, a cerebellar case, the condition was about equal in the two eyes.

CASE 11.—Surgical No. 25,090. *Cystic glioma of right frontal lobe. Choked disk in Stage 5, with marked impairment of vision on the right; Stage 4, with interlacing of color-fields on the left. Exploration with evacuation of cyst.*

History.—Mr. T. B. H., aged 28, was admitted April 18, 1910, with a history of neuralgic pains in the head for twelve years, several convulsive attacks with unconsciousness, paresthesias in left arm; headache during the previous year very severe; occasional vomiting. There had been some change of disposition and forgetfulness. Impairment of vision had been gradual. Frequent periods of amaurosis occurred, with occasional diplopia.

Examination of Eyes.—Slight exophthalmos on right. Pupils unequal; right 6 mm., left 5 mm. in moderate light. Both reacted to light and distance. No oculomotor palsy. Fine nystagmoid twitches on looking up and to the right. Fundi: Right, swelling of 4 D.; marked distention and tortuosity of veins. Disk appeared opaque and glistening from definite atrophy; its outlines were recognizable though hazy. There were no hemorrhages, but numerous exudates. Left, swollen 5 D. Great tortuosity of vessels with distinct perivascular streaking. Evident atrophic changes. Fields (Fig. 19): Right, no colors recognized; constriction with tendency to nasal blindness; left, constriction and interlacing, with almost complete blue inversion. Visual Acuity: Right eye reduced to counting of fingers with difficulty; estimated acuity, 15/100; left eye, 15/30.

Operation.—April 23 and 27. Osteoplastic resection with evacuation of large left precentral cyst was performed in two stages. Despite the marked general postoperative improvement a further lowering of vision took place.

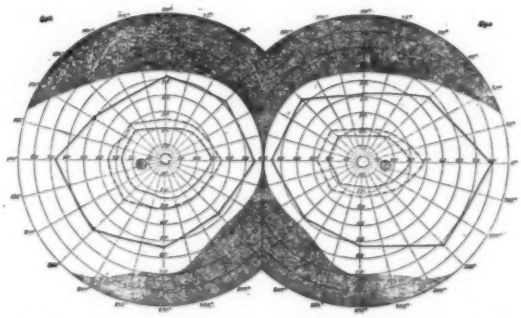

Fig. 18.—Charts of Case 10 three weeks after operation, plotted with 1 cm. disks.

On May 9 the fields (Fig. 20) showed a further constriction with a definite tendency toward a binasal defect. Normal color-relations, however, were restored. Fundi: Right, swelling of 1.5 to 2 D.; glistening appearance; perivascular streaking marked. Left, no measurable swelling; abundant new tissue formation, more evident than before. Acuity: Right, 3/100; left, 8/20.

Aug. 12, 1910. The patient returned for observation, much improved. Fundi: Right, disk fluffy and glistening; no measurable swelling. Left had practically the same appearance; evidently a quiescent process. Fields practically the same as on May 9; the constricted color-field on the left showed no interlacing. Acuity: Right, reduced to counting fingers; left, 10/20.

The history just recited shows that with adequate relief from the existing pressure disturbances a choked disk, even in this advanced stage, may subside and some vision still be preserved in spite of the contraction of the extensive new-tissue formation.

The following and last of the cases which we have selected to illustrate the terminal stage of Gunn's subdivisions was an acute case and, surgically speaking, a most unfavorable one. It illustrates, however, the existence of interlacing even to the final blotting out of central color perception. Though there was some lowering of vision after the decompressive operation, fairly useful

sight (though not for reading) was preserved until the patient's death.

CASE 12.—Surgical No. 24,778. *Unlocalizable (presumably cerebellar) tumor. Choked disk in an advanced stage, with tendency toward a binasal defect. Bilateral decompression. Advancing condition halted short of blindness.*

History.—Mr. W. V. M., aged 40, was admitted Oct. 6, 1909, complaining of severe occipital headaches for eighteen months, occasional vomiting, blurring of vision for five months, attacks of total amaurosis for two months and at time of admission occurring with every change of position, marked photophobia. Neurologic study suggested subtentorial lesion.

Examination of Eyes.—Some slight exophthalmos; more marked on left than on right. Marked congestion of palpebral venules. Pupils wide, right slightly larger than left; reacted well together to light, distance and consensually; right less responsive alone. No loss of muscle balance. Some suggestive nystagmoid twitches. Fundi: Right, swelling of 9 D.; edema extended two disk diameters onto retina. The disk was very prominent; peaked at the center; the edge overhung the retina. Numerous yellowish exudates and white connective tissue deposits; no hemorrhages. The veins were full and excessively tortuous, dipping in and out of the edema. The arteries were small. Left eye showed practically the same condition; swelling of 7.5 D. Fields (Fig. 21): marked and irregular constriction, especially of color-fields, which interlaced. Acuity: Right 40/60; left, 20/60.

Operation.—October 8. Right subtemporal decompression was performed.

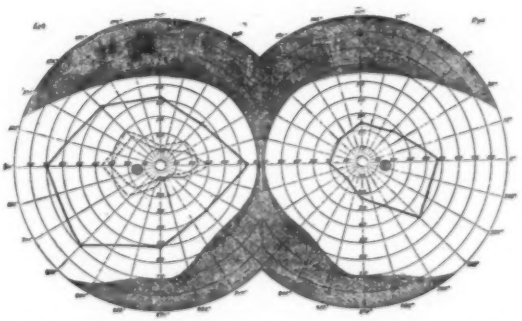

Fig. 19.—Charts of Case 11 before operation. On the left interlacing and constriction, with Stage 4 of choked disk; on the right, achromatopsia and marked nasal constriction in Gunn's fifth stage.

October 11. Fundi: Right, swelling 7.5 D.; left, 6.5 D. No change in general appearance.

October 14. Fundi: Right, 6.5 D.; left, 6.5 D. Subjective improvement in acuity. Cessation of attacks of amaurosis.

October 19. Fields had widened somewhat. Fundi: Right, 6 D.; left, 6 D. Retina less edematous. Acuity: Right, 30/60, left, 20/60.

October 21. Acuity: Right, 21/60; left, 12/60. This rapid lowering made further decompression seem urgent, and on October 23 a left subtemporal decompression was performed.

November 1. Fundi: Right, 5.5 D.; left, 5 D. No retinal edema. Acuity: Right, 21/60; left, 6/60.

November 8. Fundi: Right, 5 D.; left, 4.5 D. No change in general appearance, though veins were less tortuous. Fields (Fig. 22) showed further constriction, with especial loss on nasal side, where colors were no longer perceived. Acuity: Right, 9/60; left, 3/60. Patient discharged.

November 24. The patient returned for observation. Fundi: Right disk measured 2 D.; disk margin coming into view; fluffy appearance from abundance of new tissue; obvious atrophy. Left disk less clear; 3 D. of swelling; margins still obscured. Acuity not so good as on November 8. Fields not taken. Patient was subjectively much improved, but the protrusions were tense and the suggestive cerebellar symptoms more pronounced. There was obviously an internal hydrocephalus. Suboccipital exploration was refused.

Vision continued about at this stage for two months and then improved somewhat. In March, 1910, he was able to write some and on "good days" could read large print, according to his wife's statement. He fell under the spell of Christian Science and died Oct. 15, 1910. No examination.

It is thus apparent that even in this final stage of Gunn's classification some vision may be preserved after operation and that even though the color-fields are greatly constricted they may still show interlacing of their boundaries. The terminal perimetric distortion for both eyes in this case exhibits a tendency toward a binasal defect, particularly for color-perception. A defect of this character was likewise apparent for the right eye

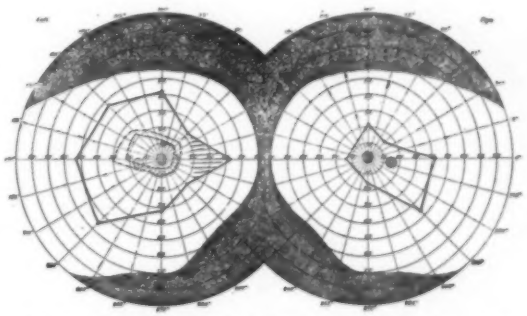

Fig. 20.—Charts of Case 12 twelve days after operation. Restoration of color-relations on left, with advance in constriction for both colors and form.

in Case 11, the condition having progressed, however, to the stage of complete achromatopsia. These last two cases will be found to merge into the group of twelve cases, mentioned in our statistical analysis, which exhibited a final tendency toward a binasal hemianopsia with loss of color vision, a small central area of bitemporal vision for form alone persisting after the postoperative subsidence of the advanced grades of choked disk.

A full description of these twelve cases of so-called binasal hemianopsia will be reserved for another paper

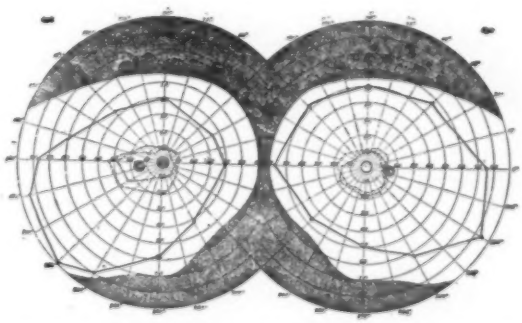

Fig. 21.—Charts of Case 12 before operation, taken with 1 cm. disks. Marked color constriction with interlacing in Gunn's fifth stage.

in this series. They are here referred to in order to show that the prognosis for some postoperative preservation of vision is less unfavorable in this fifth stage than Marcus Gunn was led to believe.

SUMMARY

Out of the 123 cases in our tumor series in which perimetric observations could be made, fifty-three showed

simple color-interlacing or inversion with more or less constriction of the field boundaries.

In ten of these fifty-three cases the dyschromatopsia either actually preceded any recognizable ophthalmoscopic change in the eye-grounds or accompanied most incipient stages of choked disk. These distortions of the color boundaries, therefore, promise to be of some service in the making of a more precocious diagnosis of an increase of intracranial tension than is commonly ventured on. Thus, in a number of cases of early tumor extirpation, color inversion and interlacing, in addition to attacks of Jacksonian epilepsy, were the only clinical indications of the lesion.

We have attempted to correlate the perimetric deviations, observed before and after operation, in the remaining forty-two cases of simple dyschromatopsia, with the accompanying grades of choked disk subdivided into six groups according to Marcus Gunn's classification.

Until the perception for colors is completely lost, inversion or interlacing is often apparent, even in the greatly constricted color peripheries characterizing the advanced stages of choked disk.

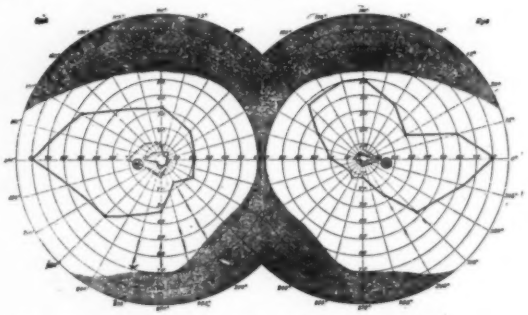

Fig. 22.—Charts of Case 12 a month after operation (1 cm. disks), showing further constriction, especially of nasal fields, with nasal hemiachromatopsia.

Though permanent achromatopsia is usual, total loss of vision is by no means inevitable even when the process has advanced into Gunn's fifth stage.

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[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A LATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION DISCUSSIONS."]

CLINICAL DEDUCTIONS IN THE STUDY OF TUBERCULOSIS *

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In a paper read before the Missouri State Medical Society, August, 1910, I presented some conclusions from a number of years' experience with tuberculosis, both in hospital and private practice. These had mainly to do with modifications of well-known methods of investigation and the interpretation of adventitious phenomena in the light of clinical research.

I now desire to present additional deductions, most of which are the result of a realization that much more is needed in the care of tuberculosis than the time-honored treatment of open air, food and rest—important as these may be. It has become the fashion to speak of patients who are living under these conditions as "taking the cure." Too often the physician, forgetting his own responsibility and need of study, breathes a prayer to Hygeia and turns his patient over to Mother Nature. We are caring for a specific disease and our care should be something more than general. "Back to Nature" is starting in the right direction, but each case should be personally conducted by a trained adviser. Regarding the pessimism of some practitioners concerning the results obtainable in tuberculosis, the von Rucks[1] well say: "Investigation will probably show that they treat their patients by general methods in which relapses are almost unavoidable."

In addition to the deductions made in my former paper, the following have proved of value to me. They have been worked out during the last eight years in my service at Mount St. Rose, at our state sanatorium at Mount Vernon and in my private practice. Eliminating, so far as possible, errors due to faulty observation and bias, I have come to consider them as reasonable and conclusive. The first two, while theoretically accepted, are not as yet, by many, made factors in the therapeutic problem. The other three have to me a definite value.

ARTIFICIAL IMMUNIZATION

The use of tuberculin is justifiable and established, but dangerous if not used with exceeding care. Trudeau holds that the physician who disregards as of no importance an increase of a minute fraction of a milligram of tuberculin, or a rise of a few tenths of a degree of temperature, will meet with disappointment and disaster. Lawrason Brown[2] says: "It is certain that tuberculin should be administered therapeutically only to those patients whose general condition is good, and it should rarely be given unless the temperature seldom goes above 99.5 to 100 and is normal or subnormal in the morning." With such statements from our highest authorities and others, and from my own experience with tuberculin, I would insist that the hypodermic method be employed only by those who have the most complete control of their patients, whether it be in the sanatorium or in private. In my own cases, not only do I begin with the minimum dose, but I enjoin complete rest for at least a week, or until the susceptibility of the patient can be estimated.

To render the use of tuberculin safer for those who cannot make the close observation needed in hypodermic methods, I have been experimenting during the last year with the direct inunction of an ointment containing tuberculin. I believe that one factor in the seeming results is the counter-irritation. If deep-seated irritation can produce surface stimulus and rigidity through a nerve-route, as is found in appendicitis or in the intercostal spaces over inflammatory processes within the thorax, why may not stimulation from local irritation on the surface be conveyed in the opposite direction by the same route? There may be something more in the old-fashioned blister than we are willing to admit.

With the surface application of tuberculin I believe it may be possible to have three results without danger: (1) the diagnostic test—not always definite, especially in the adult; (2) the therapeutic value and (3) the stimulus of counter-irritation. I am now using a pellet, made for me by Mulford & Co., of hydrated wool fat and cerate, each containing 0.2 gm. of old tuberculin. The skin over the lesion is washed with alcohol and slightly stimulated by rubbing with dry absorbent cotton. One-half of one of these pellets (equivalent in amount

* Read before the St. Louis Medical Society, April 15, 1911.

1. Von Ruck, K., and von Ruck, S.: Specific Treatment in Pulmonary Tuberculosis, THE JOURNAL A. M. A., March 19, 1910, p. 954.
2. Boston Med. and Surg. Jour., July 23, 1908.

dilution O. T.) is rubbed in with a glass spatula. If the test or other evidence is sufficient for diagnosis, slightly increasing amounts are used each third day.

While my experience has been too recent to be convincing, yet I am sure that enough of tuberculin can be absorbed by this method to secure reaction. In one case the temperature went to 100 F. repeatedly. White[3] reports favorably on the use of tuberculin through scarification, asserting that constitutional reaction from this method is as possible as by the hypodermic. Koppleman has applied the von Pirquet technic for the systematic administration of tuberculin and lauds its numerous advantages over the usual methods, and asserts that it surpasses them in mildness, constancy and gradual action.

If the inunction of tuberculin can be shown to be as effective as its use by hypodermic methods, or by scarification, we can add to its merits that of safety. I believe that the slight reactions indicate its therapeutic value, but so many factors enter into the computation of values when estimating results that more time must be given for the verdict. I have used it in eleven afebrile cases since October, 1910. In several there was an advance of 0.4 F. and in one the temperature advanced to 100.2 F. All of these patients are doing well, but theirs are favorable incipient cases with excellent surroundings. My first thought was to prove the comparative harmlessness and potency of this method. More extended tests are being made by Dr. English, assistant physician at the Missouri Sanatorium for Tuberculosis.

AUTO-IMMUNIZATION

There is a large field for investigation here. Every victim of tuberculosis has his own tuberculin. If resistance can be made early enough or before the supply is too rapidly taken into the circulation, the patient becomes immune. The number of cases in which gland tuberculosis has become latent, where no pulmonary infection exists, is an illustration. Because of the absorption of and greater or less reaction to this product of the local infection, it is wrong to add to the tuberculin by extrinsic dosage. Not till the fever and the general symptoms give evidence that the infection is latent and immunity begun, can we add the tuberculin of the laboratory. Even then it is possible to revive the former activity. Is it not possible to aid the process of auto-immunity to completeness? So often this is a result without interference that *a priori* it would seem possible.

Phillips,[4] in a plea for graduated exercise in suitable cases, says: "By reason of the accelerated circulation (due to exercise) a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react and to produce certain opposing elements or autobodies." After a term of normal temperature, I have experimented by directing slight direct exercise, or, better still, passive exercise by means of the vibrator held lightly over the site of infection. The cases chosen were those of one-sided lesion in the first or second stages (Turban). In all there had been afternoon temperature which had disappeared under complete rest in bed. While the patients were still so confined, I induced local stimulation by graduated percussion.

In eleven cases, eight patients reacted slightly. The vibrator was used on six of these and two of the six had a temperature the succeeding day of nearly 100 F., which soon passed away. In all of the eight except one, reaction did not occur after two or at the most three trials. In the exceptional case the temperature increased after each of three trials till I feared to repeat it. In all the trials the percussion stroke was very light. Gentle general exercise produced the same results in these eight cases. The three which did not show increased temperature were possibly immune to auto-infection. I beg that no one will think I hold these results as conclusive. I record them only as suggestive, indicative of strategic points in our advance yet to be occupied.

INTESTINAL ANTISEPSIS

In the care of tuberculosis with all its tendency to wasting and malassimilation we must provide fuel and care for combustion; i. e., good food, well digested, and sufficient oxygen to meet vital requirements. Before food can be appropriated the alimentary canal in its different divisions and functions must be interrogated. I believe that special attention should be given the large intestine. It is at the beginning of this tract that we find the greatest number of intestinal flora, and the presence of bacilli in the fecal masses has been too often verified to be doubted. The attending constipation and diarrhea of the consumptive are among the common symptoms and the accumulation and distention in the right iliac region can be determined by any observer.

To the inability of the distended and weakened colon to evacuate its contents completely and the consequences of such accumulation containing the germ conditions of tuberculosis which easily find their way into the circulation, I believe that much of the fever in tuberculosis is due, being caused not alone from direct absorption from the lungs, but from the intestinal tract as well. Following this hypothesis, I have, in suitable cases, ordered daily an active enema, taken in the knee-chest position, slowly distending the colon as far and freely as possible. After several repetitions of this, a pint or more of normal salt solution is given as a substitute. In this way the lower bowel is kept free and comparatively aseptic. Two results seem to me to be due to this procedure. The functions of the upper tract are stimulated, as we might expect, and there is in many cases a diminution of fever with a fuller, slower pulse. The removal of the irritating contents of the colon with the germ products present and the absorption of the normal salt solution certainly in some cases are worthy of trial. When absolute rest is enjoined because of afternoon high temperature, I find the enema as above described a valuable aid. Sea water has been used in France in the ratio of two parts to five of fresh water for injections. Chartiers,[5] of the University of Glasgow, quoting from the *Berliner klinische Wochenschrift*, May, 1910, says that this dilution, being isotonic with blood-plasma, has very remarkable tonic properties which enable it to increase the power of the body to resist infection. These injections were made in the gluteal or scapular region, but I believe the enema of the normal salt solution as I have described may be equally effective. I have spoken of this before, but believe that it is worthy of repetition.

THE VALUE OF THE CACODYLATE OF SODA

In this very important field of internal medication in tuberculosis I wish to call attention to two agents. I do not mean to exclude others—as indicated by symptoms—but emphasize these because I believe in their effectiveness and because they have been too greatly neglected.

The first is arsenic. I prefer the cacodylate of soda,

3. White and Van Norman: Arch. Int. Med., October, 1910, p. 449.
4. Phillips: Brit. Med. Jour., Dec. 24, 1910.
5. Brit. Jour. Tuberc., October, 1910.

which is rich in arsenic (54.35 per cent.), and has a physiologic limit greater than the ordinary forms and dosage. The organic group to which this chemical belongs is composed of such modifications of arsenious acid, that they are almost deprived of active pernicious properties. A half gram of cacodylate of soda, corresponding to 0.33 gm. (5½ gr.) of arsenious acid, has been given to a dog without injurious consequences.

Having studied the value of Professor Ehrlich's now famous salvarsan, which belongs to this group, though materially different chemically, one may the more readily consent to my statement of the worth of the cacodylate of soda. I have used the cacodylate of iron but see no advantage in it over the other. I use the hypodermic injection in normal salt solution, first, because there is little pain, which may not be said of succinimid of mercury or the arsen-phenol-amin of Ehrlich; second, because the dosage may be more exact, and third, because there is less of the alliaceous odor than when given by the mouth. Sometimes there is a slight local reaction, but, as a rule, very little. The effects of cacodylic acid in augmenting the number of red corpuscles to a certain standard and increasing nutrition and consequent weight and strength, were noted by Professor Gautier and Dr. Danlos[6] as early as 1899. For over three years I have employed it in a large percentage of my cases and believe it has a definite place in our therapeutics. One important requirement in its use is the need of individualizing the case. I find that some patients can be given three times as much as others, but it is probably safer to begin with a grain daily.

IODIN

Iodin is indicated in many phases of tuberculosis. It is an ideal germicide, and its action in stimulating metabolism and nutrition are well known. I use iodin in tuberculosis directly to meet these two indications. Possibly its most direct result is shown when brought into direct contact with the air-passages in influenza, acute pharyngitis, tonsillitis or laryngitis. Much depends on the method of application; and here the most direct is the simplest. A few drops of the tincture in a small glass is placed in a larger glass containing hot water. The direct heat of the water bath causes the rapid evaporation of the iodin, which when inhaled reaches every portion of the respiratory tract. This cannot be so well accomplished by the spray or the vapor, and the effect is almost immediate in the conditions above mentioned. In tuberculosis of the upper air-passages and of the lungs when there are ulcerated surfaces, this direct method has been of value to me. Its simplicity should not prevent a trial.

Flick advocates iodin inunctions by iodized oil or europhen in oil and this may be used especially in cases of slow resolution. I prefer 20 per cent. iodin, or in persistent high temperature, 20 per cent. of guaiacol.

Were it not that time forbids I would emphasize as an additional therapeutic agent the fixation of the chest in hemorrhage and acute tuberculosis with rapid absorption and consequent fever. This was described in my paper of last year before the Missouri State Medical Association. Another year's experience has added to my appreciation of it. I beg that the catalogue may not be considered complete. There are many other indications, such as the care of the heart, vasomotor instability, excessive cough, etc., but I have mentioned only those in which I believe I have been able to work out some helpful deductions.

6. Soc. méd. d. Hôp., June 16, 1899.

In conclusion, I wish to express my sympathy with a statement made in the report of a "Symposium on Tuberculosis," by Professor Zwick[7] of Cincinnati. He says that physicians, it would seem—feeling that they have taught the general public and the politicians who preside over our destinies even in matters of health and sanitation, sufficient for the present, enough to go on, as it were, in the way of the underlying economic causes, hygiene and general measures—are now again turning to their own particular domain, the care and cure of tuberculosis.

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FINE SILVER WIRE AS DRAINAGE MATERIAL

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I have been using fine silver wire, in the form of wicks, for abdominal drainage after operation for acute appendicitis, but my clinical data are as yet too incomplete to report, and the suggestion is submitted for the following reasons:

1. Wicks of silver wire consisting of 90 to 100 strands almost as fine as horse-hair firmly twisted like a tobacco twist, possess marked capillarity, which is more marked as the material increases in fineness. This can be illustrated by taking such a wick and inserting it into a test-tube, in the form of a siphon. While not equal in capillarity to gauze, it seems to retain capillarity longer. I have found that, after removing such a wick from an abdominal wound containing a seropurulent discharge in forty-eight hours, capillarity was as marked as it was originally. Furthermore, silver wire can combine the effect of tubular drainage with capillarity if the spaces between the outer strands are increased, while the harder the twist the greater degree of capillarity; or else the outer layers of the wick may be made of coarser wires.

2. Fine silver wires in twists, with cut ends to the periphery, are sufficiently pliable to avoid trauma, yet firm enough to retain the original shape, and can thus be adjusted to drain a tortuous tract and can be well applied for draining the postcecum. A rubber tube and gauze of corresponding size weighs 100 gr., while the silver wire wick weighs 128 gr., making only a slight difference in weight. The wick may also be made to bifurcate so as to reach more than one focus. Of course it is necessary for the wick to be firmly twisted, so that no omentum, etc., can enter the meshes, and one revolution of the twist is sufficient. The physical properties of silver wire as a drainage material make it adaptable to meet a great variety of indications.

3. In the presence of the fluids of the body metal silver perhaps develops feeble antiseptic (?) properties and possibly stimulates the formation of antibodies, and in the pre-antiseptic days of surgery these properties perhaps explained the great virtue of Marion Sims' discovery, in 1857, which, he concluded, "was based on the principles of rational inductive philosophy." In clean wounds such properties are unnecessary and in the presence of active suppuration would be impotent, but in the presence of mild and beginning infections, within the abdomen, the query arises: Would not this effect of silver wire, as a drainage, tend to antisepticize a mildly infected wound that would subsequently develop active infection? My own observations seem to warrant such an assumption, and this suggestion is offered for the purpose of further study.

7. Tr. Miss. Valley Med. Assn., 1910, Lancet-Clinic, Oct. 10, 1910.

THE USE AND ABUSE OF DIGITALIS IN DISEASES OF THE HEART *

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Since William Withering, a Birmingham practitioner, gave his "Account of Foxglove" in 1785, digitalis has been the favorite remedy in diseases of the heart. The great popularity of the drug, however, rendered it subject to abuse as well as to use. It suffered all through these many years and decades and still suffers to-day from misappliance and insufficient appliance in the very dominion it rules. For example, if precordial pain, palpitation or a murmur is made the basis for prescribing digitalis it is a misapplication of a valuable agent constituting a serious abuse. Or, if digitalis is ordered merely because the patient has "heart disease," the drug, no less than the patient, is grievously abused.

Another form of abuse of digitalis, even though the condition of the heart calls for it, is the withdrawal or discontinuance of the drug as soon as its therapeutic effects become manifest. Let it be distinctly understood that a diseased heart which has shown failure of compensation once or twice should be kept under the beneficent influence of digitalis as long as it keeps on beating, which means indefinitely.

A minor, but no less serious, abuse of digitalis is found in the overconfidence in the drug, namely, the prevalent belief that when digitalis is given, no other remedy is to be used in conjunction with it. The great majority of patients with lesions of the heart are anemic. Therefore, the administration of iron is just as important as the administration of the heart tonic, and both remedies must be continued without halt or hindrance. Then, again, in treating people with heart disease, be they young, old or middle-aged, if they are at the same time the victims of arteriosclerosis, nitroglycerin, or one of its allies, should be given separately or in combination with digitalis. The neglect of this precaution will necessitate the untimely withdrawal of digitalis to the detriment of the patient and to the discredit of the remedy. There is still another drug which digitalis demands as an associate in the relief of affections of the heart, and that is calomel. The continuous successful administration of digitalis requires that the patient shall receive fractional doses of calomel, say 1/8 grain, every fifteen minutes until one grain is taken, three times a week. The omission of calomel is an insult to digitalis. Whether calomel acts as a laxative, diuretic, vasodilator or eliminator of surplus digitalis makes very little difference. The all-important clinical fact is strongly in favor of its beneficial action in cardiac disease and in advancing and promoting the potency of digitalis.

The administration of calomel as an eliminator of surplus digitalis may strongly appeal to medical men who believe in the cumulative effects of digitalis. I myself regard the doctrine of the "cumulative effects" of digitalis as a myth which rolls along the ages like other ill-founded medical traditions, and which is copied by each and every writer on the subject without individual verification of the phenomenon. The sum total of the cumulative effects of digitalis amounts to a personal susceptibility to the drug, or to what is known as idiosyncrasy, no more and no less. Idiosyncrasies are plentiful. I know a woman whose susceptibility to quinin is so keen that one-fourth of a grain gives her an intense urticaria involving the whole body and rendering her miserable for a week or ten days. Some have a marked susceptibility to members of the coal-tar family, which produce in them scarlatinal eruptions. Who has not seen cases of distressing coryza brought about by one small dose of potassium iodid? I once applied a belladonna plaster to each breast of a nursing woman, for the purpose of stopping pain and checking the secretion of milk. Within twenty-four hours she developed acute mania, which disappeared with the removal of the plasters. Instances of susceptibility could be multiplied. Every physician must have a whole stock of them.

It is the same with digitalis. We come across patients who come under the disturbing influences of digitalis after taking one or two small doses. Such patients are a worry, for, in treating them, we are at once deprived of, and the unfortunate patients are denied, the beneficial effects of the best medicinal remedy for heart trouble. To rob the patient of the good of digitalis out of sheer fear of this old medical superstition is a terrible abuse of the time-honored heart remedy.

With all due deference to time and tradition, as well as to clinicians, writers and teachers of medicine, I plead guilty of heresy with respect to the doctrine of the cumulative effects of digitalis. I have devoted the last ten years to the study and treatment of cardiac affections in one of the largest clinics in the city, and have given digitalis in suitable cases for years uninterruptedly. If I may be permitted to add to this, ten previous years of general practice with frequent occasions for prescribing digitalis, and if it be remembered that I never yet have seen, or encountered, one single, genuine instance showing the cumulative effect of this remedial agent, I think that I have a right to hurl defiance at the old hoary tradition and challenge its truth.

The next point for consideration, and one which shall be classed among the abuses of digitalis, is the insufficient application of it.

To obtain the right specific effects of digitalis in a diseased heart, the proper dose must be ordered. Homeopathic dosage in cases which call for large doses is a waste of time, intelligence and patience. Here, then, is the starting point for the discussion of the second division of this paper, namely, the use of digitalis.

Generally speaking, every form of dilatation of the heart arising from every possible pathologic source is a fit and eminent subject for digitalis. But I desire to be selective and, therefore, will endeavor to particularize.

Because mitral insufficiency is the most common affection of the heart, it shall receive our consideration first.

The most intelligent and the most effective method of the study of the therapeutics of digitalis in this form of valvular trouble is to appreciate the correct stage of the valvular lesion, when one is called on to give advice.

Mitral insufficiency is divided into three stages: The first stage is characterized by one sign, and one sign only, and that is a mitral systolic murmur heard over the apex. The murmur may occupy the whole first sound of the heart or only part of it. The size and shape of the heart are normal, and subjective symptoms are conspicuously absent.

The second stage is characterized by the previously mentioned systolic murmur, plus displacement of the

* Read at a special meeting of the Medical Association of the Greater City of New York, held in the Borough of Richmond, June 5, 1911

apex; some hypertrophy and dilatation, accentuation of the pulmonic second and slightly diminished pulse, when taken while the arm is held in an upright position, and compared with the pulse in the other arm, which is held in the horizontal position. Subjective symptoms may or may not necessarily be present at this stage.

The third stage embraces all the physical signs of the second stage, exceedingly aggravated, and includes subjective, and many other, signs and symptoms, such as dyspnea, cyanosis, bronchorrhea, dropsy, etc.

The first stage requires absolutely no treatment. The mere presence of the murmur is no indication for digitalis or any other drug. The patient is enjoying perfect health during this stage of the mitral valves and is blissfully unaware of any trouble, until his good (or bad) doctor tells him that he has "heart disease"; then the trouble begins.

The second stage requires no treatment as long as the valvular lesion gives rise to no subjective disturbances. As soon, however, as dyspnea makes its appearance, or cyanosis, or slight edema of the ankles, or a persistent dry cough, or dyspepsia with fulness and distress after eating, one or two or three of these signs or symptoms hurriedly demand digitalis.

In other words, these new conditions are signals of a heart that is in distress, or, to put it in clinical parlance, the heart shows failure of compensation.

The correct dose of digitalis to relieve this condition is twenty drops of the tincture three times a day, to be continued until all the disturbing elements resulting from poor compensation shall have disappeared. This usually takes three days. Thereafter the tincture is given in ten-drop doses and continued thus indefinitely.

Mitral insufficiency in the third stage, in its relation to digitalis, is comparable to a flabby puerperal uterus in its relation to ergot. To produce contraction in a uterus like that, and give it tone, small doses of ergot will do no good. Therefore, dram doses are ordered. So it is with a heart that has lost its entire compensation, through which loss most distressing and menacing symptoms have arisen. One dram dose of the tincture of digitalis should be given. If in twelve hours there be no satisfactory amelioration of the symptoms, another dram should be ordered. Not long ago I gave three drams a day to a male patient and they did him good. After the good effects of the drug are beginning to be noticed, the dose should be reduced to a half dram three times a day for the next two or three days. Thereafter, and forevermore, twenty drops of the tincture three times a day should be given with few, if any, interruptions as long as the patient lives.

One important point must be borne in mind while administering digitalis in doses larger than the usual or customary ones, and that is, to enjoin absolute rest in the recumbent position to avoid syncope, which sometimes results from sudden rising.

Aortic insufficiency does not require digitalis, while hypertrophy and dilatation maintain perfect equilibrium. The moment dilatation gets the upper hand, digitalis should be ordered. Dilatation in excess of hypertrophy will occur in aortic insufficiency in the last stage of the disease. When this takes places, the malady will be found to run a downward course. In many such cases relative mitral insufficiency supervenes, or is added, to the aortic incompetency; then dyspnea, cyanosis, dropsy, come on with a rush and fury and shorten the distance between the bed and the grave. Digitalis is here indicated, but extreme caution must guide the dosage. The dose should be small in the beginning; five drops three times a day the first day; six drops three times a day the second day; and thus the increase is gradually continued until the maximum dose of twenty drops three times a day is reached. As soon as the desired effect is produced, the initial dose is reintroduced and kept up indefinitely. Thus one notes the difference in the administration of digitalis in mitral and aortic insufficiency. In the one the initial dose is large and the subsequent dose small; in the other the initial dose is small and the following dose large, to return to the initial dose, however, when compensation is restored.

There is one very important contra-indication to digitalis in aortic insufficiency, and that is an intermittent pulse. When the pulse is irregular in time, the avoidance of digitalis is a part of wisdom. Then again, when digitalis is used in aortic insufficiency, here, more than in mitral insufficiency, the patient must remain in the recumbent position as long as possible, particularly right after the administration of a good-sized dose.

Mitral stenosis does not call for digitalis for the longest time of the duration of the disease. When compensation is good, not only digitalis but any other cardiac tonic is out of place and time. Even in the presence of beginning failure of compensation, as evidenced by a persistent, harassing cough, dyspnea and distressing palpitation of the heart, digitalis should be avoided. Strophanthus in small doses—say five drops three times a day—will work both agreeably and efficiently. Still better than the tincture of strophanthus is the group of the caffein preparations. Any member of the caffein family will yield good results. The best one of them, however, is the caffein sodiobenzoate (N.F.) in 5-grain doses every four hours. This drug fulfils the purpose of a heart tonic in mitral stenosis, until the heart failure is complete. When this stage arrives, mitral insufficiency, either real or relative, will be present plus excessive dilatation of the right and left ventricles and some bad sequelæ. This condition calls for digitalis and the dose should not exceed twenty drops of the tincture three times a day, to be rapidly reduced as soon as compensation improves. For some reason or other, mitral stenosis is not a friend of digitalis, and the only excuse for ordering it is a desperate condition of the heart and an eternal faith in digitalis.

Aortic stenosis, the most benign lesion of the valves, needs no digitalis until dilatation and failure of compensation occurs. Then digitalis is given in twenty-drop doses continuously. The curious thing about aortic stenosis is that for the longest possible time perfect hypertrophy of the left ventricle is maintained, but as soon as this beneficent condition is disturbed no amount of drugging and resting will restore compensation. For that reason, a daily large dose of digitalis is advocated indefinitely to keep the weary heart a-going on its rapid journey to an eternal standstill.

Just a word about the drug in chronic myocarditis. We are warned from time to time not to give digitalis in myocardial degeneration. My experience runs counter to this warning. Patients with myocarditis can stand fifteen-drop doses of the tincture three times a day very nicely. It does them a great deal of good. My patients demand it, if by chance or error it is omitted from their stock of medicines. Digitalis in myocarditis may not, in many cases, remove arrhythmia, as it does so beautifully in mitral disease, but it tones up the organ and in consequence of it, the unpleasant subjective phenomena improve, which, after all, is all that we want and all that we can accomplish under the circumstances.

257 West Eighty-Eighth Street.

PREGNANT DOUBLE UTERUS

A. E. ACHER, M.D.
FORT DODGE, IOWA

History.—The patient's family history was negative. She was 37 years old and had menstruated regularly every four weeks, the menstrual period lasting about four days. She had had six living children before present labor, and three miscarriages. I curetted one of the patient's uteri about two years ago and did not discover anything unusual about her anatomy.

Present Pregnancy and Labor.—I was called on the morning of May 27, 1911, to see patient. Pains were coming about every fifteen minutes. Vaginal examination revealed dilatation to about the size of a dollar. At this time I noticed that the cervix was unusually high. Upon external examination I found two distinct tumors, one to the left and one to the right of the abdomen. The right was considerably higher than the left. On palpation I discovered small parts and distinct motion on each side. The diagnosis of twins was made. The characteristic thing about the abdomen was a decided crease between the two tumors. After making the usual examination I went away. On returning in the afternoon, I found strong pains coming regularly, but dilatation progressing very slowly. So I went away again. Returning again at 9:30 p. m. I found dilatation complete but nothing accomplished in the way of expulsion. The presenting head was as high as ever. The woman, because of the long labor and unusually agonizing character of the pains, was becoming weak. Another physician and nurse were called, patient put under complete anesthesia and after the usual preparation a high forceps delivery was performed of the presenting baby. When my right hand entered the vagina to deliver the second child, I failed to find the baby in the dilated cervix, but the placenta was in evidence, which I delivered. But where was the second baby? Certainly not in the uterus from which the first came, because I had just explored that. When my right hand entered the vagina again I found something I was not expecting, namely, by the side of the dilated cervix, another cervix which was only partly dilated. In the vagina this cervix was separated from the first by a partition about one inch in thickness. I now discovered the real condition: two distinct and separate uteri, each with a distinct cervix and a distinct body, and each containing a fully developed baby. I then proceeded to dilate the second cervix with my fingers, after which I delivered the second baby by high forceps. Both babies (girls, each weighing 5 pounds) are still living. The mother made an uneventful recovery.

A CASE OF CEREBROSPINAL MENINGITIS

C. C. SNYDER, M.D., AND W. R. TYNDALE, M.D.
SALT LAKE CITY

Patient.—April 26, 1911, the patient, a boy, aged 12, was too ill to attend school and, with the exception of a few short intervals, remained in bed all day suffering from sick headache and pain in the leg. During the day headache was increased.

Course.—The next morning the mother gave him one-half ounce of magnesium sulphate, which was vomited almost immediately. Vomiting continued at intervals until midnight. Vomiting came on suddenly each time, was projectile, and patient was unable to raise his head. From 12 o'clock until 4 a. m., April 28, patient was comparatively quiet, when vomiting was resumed, and was incessant until 11 a. m. At 8 a. m. patient was given castor oil, which was retained but a short time. The mother thought the boy was suffering from typhoid fever, and applied some measures of her own. From 11 o'clock the vomiting was less severe but during the night was renewed with previous severity and, when we saw him at 11 o'clock Friday morning, April 29, for the first time he presented the following symptoms: unconscious, with head and neck markedly retracted, and so rigid that head could not be moved; face and lips cyanotic, pupils unequal, pulse rate about 80, very irregular and very weak; temperature, subnormal, 97 rectal; positive Kernig; petechial hemorrhage, universal; Tâche cérébrale; hyperesthesia over the entire skin surface; patellar and other reflexes increased; profound state of shock. Diagnosis of epidemic cerebrospinal meningitis was made.

Treatment.—Patient was removed to the Holy Cross Hospital and an ounce of cerebrospinal fluid was withdrawn and 30 c.c. of antimeningococcic serum (Mulford) was introduced into the spinal canal. The fluid withdrawn was somewhat viscid, cloudy and slightly tinged with blood. Microscopic examination showed large numbers of pus cells and of the *Diplococcus intracellularis*, both free and within the leukocytes. Twelve hours after serum had been injected patient regained consciousness and showed signs of improvement. On the three subsequent days 30 c.c. of serum were injected after the withdrawal of the same amount of cerebrospinal fluid. Patient's condition showed marked improvement during this period and after four days his condition was so much improved that further injections were thought unnecessary. Patient was given sodium bromid regularly for several days, as well as a hot bath daily. A course of calomel was given twice during patient's stay in the hospital.

On the seventh day patient complained of pain in his joints; pain was especially severe in the left knee joint. A few doses of acetyl-salicylic acid controlled these symptoms. Patient remained in the hospital eighteen days, at which time he was apparently cured and is well at this time.

Section Discussions

VACUUM FIXATION OF THE LENS AND FLAP SUTURE IN THE EXTRACTION OF THE CATARACT IN ITS CAPSULE

VARD H. HULEN, A.M., M.D., HOUSTON, TEXAS

(*Concluded from page 189*)

ABSTRACT OF DISCUSSION

DR. G. C. SAVAGE, Nashville: Dr. Hulen's operation appealed to me the moment I read about it. It is known to most of you that I devised an operation for the extraction of cataract in its capsule and adopted a method that I believe is more simple and efficient than the Smith operation. I would never have done it except that I knew that I would never do the Smith operation. My method I have before described. I believe that Dr. Hulen's method is distinctly better than mine, and I am gladly willing to forget my own operation and Smith's for what Dr. Hulen has suggested. Do not let any one claim the operation. Let people tamper with the instrument as much as they want to, but do not let them tamper with the operation. I have had some experience in that line in regard to my muscle-shortening operation. Dr. Hulen's operation, I believe, will be the last to be devised for cataract extraction. All that we have to do is to let Dr. Hulen and others so perfect the instrument that he has devised and the exhaust-tube that he has also brought into use that none of us will be afraid to undertake it. Let us be a little careful while Dr. Hulen and others are making the perfected apparatus. I believe that Dr. Hulen is wrong in one step of his operation, and I told him so. I do not believe that the eye ought to be turned loose while that instrument is inside of it. I believe that the left hand—if the right eye is being operated on, and *vice versa*—should be set to the task of fixing that eye-ball so that it shall not move while the operation is being done, and that the very best method of fixing it is the grasp of the tendon of the internal rectus, which procedure I claimed, but had to surrender to another. But with the eye-ball fixed by means of the tendon-grasp, then with his instrument, made lighter than it is now—it is too heavy—and with that little cut-off entirely eliminated and some other means substituted, then introduce the instrument whether an iridectomy has been done or not, then let the exhaust be turned on, and I know that by shifting the instrument to

the right and to the left it will tear the ligamentous attachments loose. And here comes in the beauty of his instrument. The ligaments can be torn easily by my instrument or in the Smith operation; but they can be torn so much more easily, delicately and beautifully by this instrument of Dr. Hulen's. Then when this is done, that same suction being kept up, the lens can be lifted out.

Dr. D. W. Greene, Dayton, Ohio: Dr. de Schweinitz said at the meeting of the Ohio State Medical Society that he did not believe that America would be behind the rest of the world in devising ways and means for the removal of cataract. He thought that the Smith operation was in the right direction. I have made a good many of these operations. The Smith is not a perfect surgical procedure. It is not so well suited to Americans as it is to the natives of India, who go into a trance for one and go to sleep and one can do just whatever one wants with them. Dr. Peter A. Callan of New York showed me the same principle as Dr. Hulen's in 1889. Dr. Callan had the rubber tube, but he had only a little syringe. It was a very imperfect apparatus. I do not think he ever used it. I do not say this to detract from the value of Dr. Hulen's method. If the intracapsular method proves that it is the right one, I am too proud to think that Americans should have a share in perfecting it to say anything derogatory to the method of Hulen or Callan. Dr. Hulen has the idea that Dr. Callan's instrument was for the purpose of sucking out the soft lens substance. I do not understand that that was all he claimed for it. I should be afraid of the instrument on account of the size of it. I cannot believe all that Dr. Hulen says of the operation. Seven hundred operations have taught me to respect the lens. You cannot touch it with the strabismus hook without rupturing the capsule, and Smith's instruction was to always use the flat side of it and to keep the cornea between it and the capsule of the lens. Granting that it comes through a very small hole, yet with a pressure of 25 pounds, it seems to me it will rupture. I shall be glad to see the operation demonstrated. I hope it is true, because if there is to be any improvement in cataract operations there is nothing too good for America to originate.

Dr. G. E. Bellows, Kansas City, Mo.: The operation and its possibilities appeal to me. Does Dr. Hulen ever in dividing the cornea entirely divide the conjunctival flap? Does that add to the difficulty in placing the suture? Would it be possible to place the suture as the first step, and then divide the cornea and the conjunctiva in one incision? If so, it would facilitate the placing of the suture, it would eliminate one separate step, and perhaps to a very slight degree shorten and simplify it.

Dr. John E. Weeks, New York: Dr. Greene has just said that the capsule will be ruptured if it is touched with the strabismus hook or any blunt instrument. I wish to testify against this statement, because I have used the strabismus hook on the capsule in the operation known as "immediate manipulation" for the ripening of cataract, an operation first described by Cooley of New York, and also described by a Chicago oculist, Dr. Bateman. If we open the anterior chamber we may rub the lens through the anterior capsule without rupturing it, as I have done a number of times, and the lens becomes opaque in a very short time—in from one to three weeks after such manipulation. In the instrument used by Callan, the cup has much the appearance of Dr. Hulen's. I have seen him use it only in cases in which the capsule had been ruptured; that is, for the removal of the lens substance. I do not know, however, whether he has advocated its use in cases in which the capsule has not been ruptured.

Dr. Mark D. Stevenson, Akron, Ohio: The particular thing for which I think we are indebted to Dr. Hulen is his courage. I did not know of Dr. Callan's instrument, but in the very early days of the Smith operation, three or four years ago at least when I learned of it, I devised a practically similar instrument; I have the drawings of it at home. I did not know of Dr. Hulen's instrument, as I did not receive my presession book until I came here. One point of difference in my instrument was that I wanted to control the pressure right at the instrument, and I had the idea of a plunger for the index-finger above in case it was desired to shut off the air; this could be shoved down, immediately shutting off the air, giving immediate control. The other idea that I had not determined, as I did not have the instrument made, was whether the cup should be of metal or soft rubber, so that it would adjust itself better to the lens. My fear was lest if the vacuum cup did not immediately seize the lens, it would withdraw all of the aqueous. If the vacuum could not be immediately controlled it might remove vitreous. Hemorrhages are more likely to result from lowered intra-ocular pressure than from increased pressure, which expels blood from the eye. Great safety lies in extraction during the outflow of the aqueous. The conjunctival sac nearly always contains dangerous bacteria, and there is danger of sucking liquids into the interior of the eye-ball if one does not get contact immediately. I was also afraid of catching the iris. In removing the lens one has not only the thickness of the lens in the section, but one has this instrument added to it, which necessitates a larger section. The conjunctival flap adheres without suturing. I have found them stuck before I wanted them, before the columns of the coloboma were placed, so that it had to be partially separated before replacing the iris. The conjunctival flap should be turned back. A suture is unnecessary, is slightly irritating, and heightens the risks unavoidable with tying knots on the open eye-ball. As to the breaking of the suspensory ligament, Dr. Hulen will, of course, know better than any of the rest of us, but it strikes me that in this twisting he pulls on every part at once and gets the greatest resistance possible. It seems to me a little rotating and tipping of the lens, bringing tension on one edge, would be better.

Dr. Melville Black, Denver: It occurs to me that a hole might be run from the center of the instrument to the periphery and simply putting the finger over that hole or taking it off would immediately control the pressure on the capsule. For instance, if with the suction on and the instrument in contact with the lens, one found one had the iris, one would have to stop to turn off the cock. With the hole according to my suggestion, one could take the finger off the hole, readjust the instrument, put the finger back on the hole again, and it would begin again to take hold. If the hole were put in the side of the instrument without any prominence it might be difficult to know whether or not the finger was over it, but it would be an easy matter to put a little elevation there. I feel with Dr. Savage that it is quite important that the operator should personally have that air under his own control, and it should not be entirely under the control of the nurse. I also feel that it is important that the eye should be fixed. Of course, one does not know until one tries it. Dr. Hulen does not feel that fixation is absolutely essential. Those of us who have been in the habit of fixing the eye-ball in many of our cataract operations feel the necessity of continuing it with any operation of this kind until we are thoroughly familiar with it. It occurs to me that every Tom, Dick and Harry will be making this instrument unless it is possible in some way to control its manufacture, the idea being to control it to a certain extent, at least, and cause the instrument-maker to submit to Dr. Hulen all these cups so that he can see that every one is correct. This is important. They should all be inspected by Dr. Hulen, otherwise the operation will come into disrepute. As we know, the instrument-makers turn out instruments which we devise in such a way that in a few years they are scarcely recognizable.

Dr. James W. May, Kansas City, Kan.: Has Dr. Hulen had experience in removing the dislocated lens, a condition which has given me a great many worries? I think if the instrument is useful in cases of senile cataract it certainly would be in a case of dislocated lens if one could get the vacuum cup properly placed in position on the lens.

Dr. Edward Jackson, Denver: I have had the experience to which Dr. Weeks alludes as to the tolerance of the lens capsule to manipulation in doing ripening operations. I do not think I have ever ruptured a capsule. In doing it I have worked the spatula over the capsule in direct contact with it for a considerable time. It occurs to me the difference is in the tension of the capsule. We know how easy it is to cut a tense string, and how easy it would be to make a break in a tense capsule. Dr. Greene has touched the capsule when it

was tense in the expression of the lens; but until it becomes tense I do not think there would be any particular danger of rupturing the capsule. It seems to me likely that until the ligaments had been ruptured there would not be much danger from escape of aqueous into the instrument. A certain amount of aqueous I suppose would enter the instrument in picking up the lens in any case. If one failed, however, to get the instrument properly applied to the front of the lens very soon after opening the vacuum, it might possibly give trouble. It occurred to me that the conjunctival suture was not a necessary part of this form of extraction; that possibly the vacuum cup and the conjunctival suture could stand or fall entirely independently.

DR. FREDERICK STAUFFER, Salt Lake City: The use of the suture has been practiced for a great many years by Cault of Paris, but he takes it before the operation. He dips it into the margin of the cornea, passes it over, makes another dip into the episcleral tissue, pulls the suture aside and makes the incision. It seems to me it would be better to make it before making the corneal incision. We know it is difficult to manipulate the eye after the incision in the cornea is made. It would be better to put it in first for that reason.

DR. WILLIAM F. MITTENDORF, New York: I want to point out the difference between the ripening of a cataract by means of the blunt part of the hook and the method of Smith, who, as I understand it, ruptures it with the point of the hook.

DR. VARD H. HULEN, Houston, Texas: I have done this operation only eight times and have learned only what one can learn in doing it so few times. I took into consideration every suggestion that has been made here this morning, and for good reasons, from experience, have turned them down. For instance, Dr. Black says he would control the vacuum by making a hole and putting his finger over it, and when he did not want the vacuum he would remove his finger. He did not think that in doing that the vacuum in the bottle would be exhausted and he would have to get another vacuum. That is impracticable, as are many of the other suggestions. Dr. Savage objects to the heaviness of the instrument. That is not an objection, for the reason that you have got this tube to handle, which is an objection. I first tried to get the instrument with the vacuum in the handle, but found that to be impracticable; therefore it is necessary to have the tube, and that is an embarrassment to one who is accustomed to the ordinary operations, but the heaviness of the instrument helps the governableness or handling of this tube, and is therefore not an objection. The little valve is an advantage to help control the instrument, and is not objectionable. One must have a firm grip on it.

Dr. Savage's operation is much easier to do than the Smith, but not so easy as mine, though mine has its objections. It is not so easy as it looks. Every one who sees it thinks it is the simplest thing on earth, but it is not simple, and I do not think any cataract operation on earth ever will be simple. Dr. Bellows referred to dividing the conjunctival flap accidentally. I did it in my last operation. My control was not sufficient, so in place of stopping just short of severing this flap I cut all the way through. I put in the suture anyway and it did not seem to complicate the matter at all. There is no difficulty in putting in this suture in the way in which I have described it. There is an objection to putting it in first. The section in any operation, I believe, is extremely important and must be as perfectly made and as perfectly manipulated as possible; therefore, one does not want anything in the way of making the section. The sutures are not of great consequence. The important things are the section and the extraction, and it is here that we should give our entire attention. There is no connection between the suture and the vacuum method of extraction, as Dr. Jackson says; the only thing is that it is practicable to use the suture with this vacuum method and not so much so with the other methods. As to breaking the capsule, Dr. Greene thinks, evidently, that there is 25 pounds pressure on the lens; but there is not, for the reason that as soon as the vacuum is turned on one has the entire surface of the capsule sucked up in the cup, and everywhere there is a large surface to which this cup is adhering. The edge of this cup must be smooth and not sharp or angular. The instrument exhibited here by Hardy, which you may have seen, has a sharp edge, and one could not possibly use that. There is the large surface in contact with the cup, and if the capsule will stand the pressure, as Dr. Greene forces it out in the Smith method and it does not rupture, how much less pressure there is when you put this vacuum down on it and take hold of it over a large surface and simply pull it out. There is so much less pressure necessary, so that by this method there is much less strain on the capsule. I knew nothing whatever about Dr. Callan or Dr. Stevenson having devised any cup or any other method of extracting these cataracts. There may be a hundred more, but no one has yet put it on record, and I believe that no one else has found it successful. I feel that the method which I have devised and put on record is entitled to consideration, and not those which have only been thought of. I do not know how long ago I thought of it. I wrote to Dr. Callan, and in his reply he said nothing whatever to lead me to believe that he used it in extracting cataract in capsule. He had used it, as he said, for suction. Now suction and vacuum are different. We get no suction in this vacuum method; this is extraction pure and simple; but when one takes out soft lens matter one does it by suction. I am not trying to belittle any device Dr. Callan has made, but he evidently has not put it on record and does not have sufficient confidence in it to use it, and no one else, so far as I know.

Dr. May asked about dislocation of the lens. I have not had the courage to try this new procedure on the dislocated lens or anything that is at all complicated. The fact that I have used it only eight times shows that I am cautious. Eyes are of such great importance that we cannot take liberties with them; therefore, I have used it only in cases that are suitable. Subsequent features must be worked out by experience.

INTRAOCULAR NEOPLASMS

F. PARK LEWIS, M.D., BUFFALO, N. Y.

(*Concluded from page 196*)

ABSTRACT OF DISCUSSION

DR. G. C. SAVAGE, Nashville: I have seen a number of these cases. Two of the most interesting were in children in whom glioma appeared in both eyes. About ten years ago an unmistakable condition developed in the first eye and the parents of the patient submitted to the enucleation of the eye; and in a few months it developed in the other eye, and they objected for a few days to the removal of the other eye; but it was removed and the child is well. The other case is more recent. The patient died two weeks prior to this meeting. The condition developed in one eye and very properly the parents allowed enucleation to be done. That eye got perfectly well and there was no return on that side up to the death of the child. The trouble developed in the other eye and they would not consent to operation until the eye-ball had probably undergone degeneration posteriorly and the eye trouble began to show itself behind the ball in the tissues and the eye-ball was projected. Operation was done but it returned in a short time and then the orbit was eviscerated thoroughly. It returned again and before the little fellow died on the side that had been neglected there was a mass that made the parents wish ten thousand times that it had been removed as quickly as the first. These are the only double conditions of glioma coming under my observation, but I have had quite a number in a single eye, some of them not operated on at all, some operated on too late to do an operation, the trouble returning and the child dying, and only a very few were operated on sufficiently early to prevent a return in the side from which the eye had been removed.

DR. WILLIAM F. MITTENDORF, New York: I have always been interested in the etiology of these growths. I have observed, of course, like all of us, a number of these cases, and yet in not a single instance was I able to trace a seeming history among the relatives. But I remember years ago the late Dr. Miller, of Providence, Rhode Island, reported a number

of cases which occurred in his locality, and he expressed the opinion that in certain localities, especially in his neighborhood, these growths appeared to be more frequent than in others. Dr. Rogers is here from Providence; perhaps he has made a similar observation.

DR. EDWARD JACKSON, Denver: I can recall four cases. I may have seen one or two others. I think that perhaps men who are in the same position in practice as Dr. J. L. Thompson of Indianapolis or Dr. Savage of Nashville are liable to see what seems to be a large number of cases. These patients are likely to be taken from one doctor to another before the parents will consent to have the eye enucleated, so that these cases appear more frequently in the literature than their actual frequency would warrant, and for that reason the statistics may be misleading. I have never seen a double case, but I think I have seen four or five single ones. The last case I saw had been seen by some one before coming to me. The parents lived in Texas and were referred by the physician there to Dr. McDonalds to have the eye enucleated, and they were not quite ready to have it done. But he enucleated the eye and reported the case.

DR. ADOLF ALT, St. Louis: I have seen about eight cases in my practice regularly, but these cases came in the very early stage, so that I do not know of a single case in those I have operated on in which a relapse occurred. I have seen others in consultation such as Dr. Savage related. I had one case in which both eyes were affected. It was the second in the same family. The first was brought to me when it was so small I hesitated to make the diagnosis that it was a glioma. They consented at once to the enucleation of that eye, and the child, then about a year and a half old, is now a buxom young lady and comes now for a change of the glass fitted for the other eye. Eight or nine months after the first child was operated on they brought the second child, a younger sister, and I found the same condition in both eyes in that child. I proposed to the parents, of course, that to save the life of the child both eyes should be removed at once; but they decided that that was rather jumping in the face of Providence; they preferred to see the child die, which it did, and since, whenever they come to me, they complain about how sorry they were that they did not let me operate.

DR. HIRAM WOODS, Baltimore: I do not believe these cases, as Dr. Jackson says, are quite so frequent as the text-books would make us believe. I personally have had one double case, the child of a physician living in Maryland. Both eyes were enucleated and the diagnosis of glioma confirmed by Dr. Flexner, who was then living in Baltimore. The operations were done in 1898, thirteen years ago, and there has been no sign of a return. The child is a pretty, healthy young girl, now about 16 or 17. She was 3. She is studying to be a teacher in the blind school. She has an excellent voice and is a happy young creature. I have seen two or three or four others that I can recall. One or two points about the diagnosis should be considered. There is, as we all know, an inflammatory mass that presents itself in the vitreous at times. This is sometimes a sequel of a meningitis or other inflammatory or infective condition, and it gives rise to appearances of inflammation that are pretty characteristic; I mean by that, the exclusion of the pupil, the retraction of the edge of the iris; that is, the typical signs of chronic uveitis, which would serve us in the diagnosis. I saw one case last winter in which there was nothing of that kind at all. It was a child 4½ years old, who had the typical whitish reflex, the pupil widely dilated, no history of inflammation of any kind, and the white globular mass was absolutely characteristic of glioma. Enucleation was advised by three oculists. I was the fourth man consulted. I removed the eye, but examination by a competent pathologist was to the effect that there was no malignancy at all, and that it was a large, vitreous inflammatory mass. I would not know how to avoid the same mistake in diagnosis, though we have as a general rule in these pseudogliomas evidence of previous inflammation; but in this case there was none at all. The operation was done in the fall of 1901. The child is well.

DR. J. A. DONOVAN, Butte: I was a little surprised when I read the introductory line of Dr. Lewis's paper that these neoplasms are rare. I thought they were rather frequent. Four I can recall. One patient I know went east and I lost track of the case after I had advised enucleation. One, a child about 3 years old, from whom I removed the eye-ball, a few years later died of secondary complications. Another, a child of 3 or 4, recovered. I lost track of it for a time, but I learned afterward that it was well. Another was a girl of 15 when I operated three years ago. I saw her a couple of months ago.

DR. W. H. ROBERTS, Pasadena: Last fall in Moorfields I saw a child which had one eye enucleated for glioma and was then brought back for the enucleation of the other eye, which the parents had refused to have done.

DR. WILLIAM ZENTMAYER, Philadelphia: In regard to the differential diagnosis, I saw a patient at Wills Hospital six years of age. The only illness the child had had was measles some months before. The parents were unaware of the loss of sight, which was discovered in school. The child was brought to the hospital. He had a forward displacement of the lens. Behind it there was a mottled gray mass, lobulated—three lobules—with deep crevices, with several blood-vessels over it. The blood-pressure was slightly increased. There were no inflammatory symptoms. Transillumination was not entirely satisfactory. I took it to be one of the cases which Nettleship has put on record of detached retina following measles, following a subretinal hemorrhage. The eye would have been left if I had it to do again, but for my colleagues whose sentiment was against me, I did not then immediately remove it, but three or four months later the child had some little pain in the eye and I enucleated it. There was nothing but detached retina—no evidence of malignant growth whatever.

DR. CARL S. G. NAGEL, San Francisco: I should like to add that years ago in Utter's clinic in Breslau I remember a case of double glioma in which case Utter then made up his mind to do an enucleation, but the child died. Apart from that I can remember four or five single cases.

DR. THOMAS J. MCCOY, Los Angeles: For statistical purposes I wish to report that we have only had three cases of glioma. I especially wish to report one case referred from Mississippi ten years ago. There was a growth in the right eye of this child a year old. The child was blind and the diagnosis of glioma was made and the eye enucleated. There was slight evidence in the other eye at that time of a growth in the fundus, but the parents and I thought we would watch the case. One year after that the parents presented themselves with the child with the growth projecting to the edge of the ciliary body. The eye-ball was probably twice the usual size, and I enucleated the second eye. We found no evidence of malignancy in the parents, and last year I received a communication from them that the child was still well and in good health at 11 years of age.

DR. ARCHIBALD L. MACLEISH, Los Angeles: I had the misfortune this past winter to handle a case of double glioma in a beautiful girl, the first child of wealthy parents, and I know of nothing more distressing in my practice than this case. I am bound to say that previous to the first enucleation a colleague thought he detected an adventitious growth in the other eye. I decided to examine that eye under anesthesia, but I was not able to satisfy myself of the presence of a growth. There was no external evidence of disturbance of the eye. The eye that was first removed was examined by Dr. Stanley Black of Los Angeles who pronounced it to be a typical case of glioma. Within six weeks after the operation when the healing in the first eye was nearly completed, the parents detected a whitish reflex in the other eye. I put the child under an anesthetic and satisfied myself that there was undoubtedly gliomatous tissue present, though farther forward in the lower segment of the globe. I had to tell them what was the matter, and they asked me of course whether there was anything that might be done other than enucleation. I had to say no. A few days later they told me they had decided to take the child to Lourdes, and as the case was so far forward on the globe I temporized with them on condition that in passing through Paris they should consult Dr. Galiszowsky, which they did. He confirmed the diagnosis and joined his consent to mine that they should try the virtues of Lourdes, and they are still there. We all know what the result will be, of course. There

is one other distressing feature. There is no history of malignancy in the family. The mother is pregnant in the fifth month. Previous to the enucleation they toured the Pacific Coast trying to find some one to tell them the eye need not be removed. I knew nothing about it. I am glad to say they failed. But some officious oculist informed the mother that it would be very unwise for her to incur another pregnancy, as it would be a certainty that all succeeding children would be affected similarly. Well, you can imagine the distress of this mother. She is now seven months in pregnancy, her eldest child is doomed to double enucleation, and she is obsessed with the idea that the succeeding child will be similarly afflicted. It is the most distressing case that has come under my notice.

DR. DE WITT C. BRYANT, Omaha: Dr. Lewis requests that we report as many of these cases as we have had. I have seen and taken care of six of these patients. Only one had both eyes affected. Of the six, two are alive that I know of; in one I do not know the result. Three are dead. Of the others, one whom I operated on some twelve years ago is still alive and perfectly well. The other was operated on only some seven years ago.

DR. A. E. BULSON, JR., Fort Wayne, Ind: I have some hesitancy in saying something on this subject, because it would seem that Indiana is a rather fertile field for the development of glioma. Attention has been called to the number of cases reported by Dr. J. L. Thompson of Indianapolis. I have seen one or two cases in consultation with Dr. Thompson, and, like Dr. Thompson, I have perhaps seen an unusual number of cases of glioma. I have not had the opportunity of looking over my records, but I am quite positive that I have seen not less than eight cases. A few years ago at Atlantic City among the specimens exhibited were two of mine, one from a case of double glioma; the other was a single glioma. I have had during the past year one case of double glioma in a child probably 3 years old. The patient was very thoroughly examined under a general anesthetic and the electric ophthalmoscope and studied carefully. Recommendation was made that both eyes be enucleated and the parents refused. The child was taken to a confrère who gave the same advice, and he enucleated both eyes, not, however, until the tumor mass had extended beyond the eye-ball, and death brought relief from suffering from extension to the meninges. I wish to report a rather interesting feature brought to my attention by the discussion of Dr. Macleish. The first case in which I did an enucleation, sixteen or eighteen years ago, was in a family in which I saw a second case of glioma. The child was brought to me three or four years after I had enucleated the eye for glioma and the child had died of extension to the meninges six or eight months later. This tumor I pronounced glioma after a careful examination. The patient drifted from my hands. The parents refused operation, inasmuch as they thought the operation on the other child had hastened its death. Within a few months there was an extension of the growth to the meninges and the child died without operation.

There is one point I want especially to emphasize, and that is the necessity of examining these cases of fretful, crying children under general anesthesia. I also wish to make a plea for examination with the electric ophthalmoscope under anesthesia. Another plea is for early operation, whenever the diagnosis is made. If we are to do anything for these children, it must be by early operation by enucleation. In the discussion of this topic at Atlantic City some one—my impression is that it was de Schweinitz—reported several cases in his practice and that of some of his confrères, in which the patient had lived a number of years following early enucleation. In the pathologic examination in all the cases I have seen the tumor mass has been found outside the eye-ball; that is, it has followed up the optic nerve, and while occasionally the entire vitreous chamber has been examined without finding any of the pathologic tissue, yet following up the optic nerve in several of them disclosed the tumor mass, and in such instances we are bound to lose the patients from extension to the meninges. In those cases in which the patient has lived it certainly has been due to early operation, before extension beyond the eye-ball itself. I only wish to corroborate what Dr. Thompson of Indianapolis has said concerning the number of cases which occur in our section of the country. I have seen a few which have gone to him. I wish also to approve what Dr. Jackson has said as to the unreliability of statistics in regard to these cases. Practically all of the patients will consult three or four men before they will permit enucleation, and when a patient goes from one ophthalmologist to another, and each man adds that to his records, it really interferes with the reliability of our statistics as to the number of cases we have.

DR. JOHN E. WEEKS, New York: The diagnosis is not always easy. There is a condition known as pseudoglioma, that is, there are conditions in the interior of the eye which may readily confound us. In two cases I have seen there were conditions similar to those Dr. Zentmayer has described. The ordinary metastic chorioiditis is sometimes not very easily differentiated. In the cases I have seen I have not found the condition hereditary. I am very much interested in the statements of others and in the report in the paper. I listened to the Bowman lecture by Nettleship some time ago on heredity, and he made but this brief reference to heredity in glioma. In regard to frequency, I see quite a large number of cases of glioma of the retina, but they come from all parts of the country and the cases that remain under my treatment are relatively few. In the last year I have seen four cases and in the previous ten years I think they would number two or three a year. That does not indicate, however, very great frequency of glioma. In regard to the percentage of recurrence, it is rather high, I have seen two cases in the last three years. In both cases the condition was fully described to the parents and the treatment left to them largely whether something or nothing should be done. In both cases the parents decided that the child should die rather than grow up sightless and enucleation was not done in either case. Now this discussion has confined itself largely to glioma, but sarcoma has been mentioned in the paper. I want to mention a case of melanosarcoma of the chorioid, which, so far as I know in the cases coming under my observation, is the smallest for which an eye has been removed. The man was 24 years of age and some year and a half before had noticed symptoms of a central scotoma. He consulted a local oculist in Syracuse who said the patient had a mass in the background of the eye; the oculist could not determine what that mass was and said that he must have it under observation. After observation he decided that it was in all probability a sarcoma. The patient was put on the iodid of potash and mercury to saturation in order to determine a syphilitic element. The Wassermann test was not made. In October, 1910, the patient came to me. The mass consisted of a brownish area just slightly above the fovea centralis, but encroaching on it, with a central scotoma. The upper part was pale. It measured then about 1 mm. in the horizontal and 1.5 mm. in the vertical diameters and had an elevation of less than 0.5 mm. I had a Wassermann done and also used tuberculin for the purpose of differentiation, and repeated the antisyphilitic treatment thoroughly. I had the patient under observation for three months. I took repeated drawings and found that the growth advanced. When the growth in the horizontal diameter measured 1.5 mm. and in the vertical diameter 2 mm. and the elevation 0.5 mm. I removed the eye. This growth was only the width of the papilla in its short diameter and only a little longer in its long diameter. The microscopic examination confirmed the diagnosis. I know of no other case on record in which the sarcoma was so small.

DR. EDGAR S. THOMPSON, New York: In nearly seventeen years of more or less successful private practice I have never seen a single case of glioma. Fifteen years of that time I have been working in the Manhattan Eye, Ear and Throat Hospital, where we have 17,000 cases a year, and I have seen about six cases of glioma a year, so that I must have had an opportunity of examining at least forty specimens. I have not had an opportunity to follow them up. I am well aware that these cases slip out of one's hands readily, but my impressions are from my experience that the most important thing in the prevention of recurrence is far-back section of the optic nerve. Von Graefe advised that years ago. Parsons in his recent work states that the most common extension of glioma is to the chorioid, and that would lead one to believe that evisceration is

important. In glioma extension to the chorioid is rare, whereas extension to the optic nerve is the most common thing. Cases from which specimens come to the laboratory in which the optic nerve is involved go out and in the course of six or seven months there is a recurrence, a cerebral hemorrhage or an attack of unconsciousness and the child dies. I have seen but one or two cases of extension into the orbit, and these are cases in which the growth had gone into the chorioid. In my own cases in the Manhattan, I think not more than six, I have always drawn the nerve forward as far as possible and then cut the optic nerve at the apex of the orbit. I think that is very important, and I think also that a certain number of cases might not show a recurrence if you can succeed in getting beyond that point. With regard to double gliomas, I have seen only one or two. I think they are apt to go around, because the patients will not submit to operation. In one case in which operation was done by Dr. Agnew, who died in 1888, the man is still living, with no recurrence. I think extension to the optic nerve is the greatest danger to life. Of course, metastasis comes in. Some years ago in connection with Dr. Wilson of Bridgeport I collected all the cases we could find of metastases. Wintersteiner had reported a great many. There were fifty-five in all. Almost all were very light, so that I do not believe metastases are likely to occur early.

DR. F. PARK LEWIS, Buffalo: Among the various classical cases reported the first, by Dr. Thompson of Indianapolis, which is the most remarkable case of heredity I have seen anywhere, seems to have been overlooked. A little girl was brought to his office in 1903 with a glioma of the right eye. The mother writes the description as follows:

"The first child affected with cancer was a boy born in 1869; no medical attendant; died in 1871; the second child was born in 1872; the disease was noticed in 1873; the eye was removed in September, 1873; cancer came in the other eye eleven months later and the child died in 1875. The third child died in 1882. The fourth child was born in 1883. The disease was noticed in February, 1885. It died in March, 1887. The fifth child was born in September, 1888. The disease was noticed in 1890. It died July 5, 1891. I am 55 years old, the mother of fourteen children, seven boys and seven girls. I have lost no children but from cancer."

Heredity was pronounced in this case on the husband's side. It is a remarkable history, which has been overlooked. It was published in *Knapp's Archives* in 1894.

The discussion has brought out the fact that, notwithstanding the number of cases in each individual practice, the aggregate number is small. The diagnosis, except in the cases of pseudoglioma, to which reference has been made, in the ordinary case is a very simple matter, and yet in the hands of the general practitioner the rarity of the disease would incline him to make a diagnosis of cataract and wait, therefore the importance of having more generally understood the fact that when recognition is early and enucleation is prompt it will in a considerable proportion of cases save the life of the child.

THE IMMEDIATE REMOVAL OF TRAUMATIC CATARACT

J. A. DONOVAN, M.D.
BUTTE, MONT.

(Concluded from page 197)

ABSTRACT OF DISCUSSION

DR. EDWARD JACKSON, Denver: There is only one point on which I would be inclined to modify Dr. Donovan's teaching. From my experience I would be inclined not to make the exception of waiting for an inflamed eye, or not make that a very general exception. I think I was induced to try it first by a patient living at a distance and felt under the necessity of going home. But since that I have done it several times intentionally when there was not any such reason, simply because of the good result in the first case, and that is in an eye that shows a good deal of general reaction and is pretty severely inflamed a few days after such injury, entirely apart from any foreign bodies, when it is simply a perforating injury with disturbance of the lens. In such an instance I think it is better to go in and extract the lens. The eye is quieted down immediately after the operation to such a striking degree that it shows that the presence of the lens was complicating the healing very seriously. I have sometimes done that after the inflammation had gone on two or three weeks, with very slow improvement, and I have seen the eye clear up within two or three days after the additional traumatism of making the new incision and taking out the lens. I think if I would have any criticism of what Dr. Donovan says it would be in the direction of advising early removal of at least the great mass of the injured lens.

DR. OSCAR DODD, Chicago: I would like to emphasize what Dr. Jackson has just said in regard to the removal of these swollen lenses, even though the eyes are severely inflamed. A short time ago I had occasion to take charge of a patient who had been treated for several weeks and in whose case the removal of the eye had been advised, the eye being severely inflamed and there being some irritation in the other eye. As I took it, the swelling of the lens was the cause of the trouble. I treated the patient for a time trying to relieve the inflammation, but could not, and finally extracted the lens and washed it out, and within three days the eye quieted down and he has had no symptoms of irritation since. As to the removal of the lens immediately after the injury, I think we are all prone to wait until the lens swells, but I believe that as Dr. Donovan has said, it is the proper time to remove them as soon as we can see them and get the lens out, because the subsequent inflammation and danger comes from the swollen lens to a greater degree than from anything else. I think that if we would follow that principle we would get results frequently in instances in which we have to enucleate the eye when the lens is left on account of the severe iridocyclitis brought about by it.

DR. W. R. JOHNSON, Spokane: Dr. Donovan and myself practice nearly enough together to know what these injuries are, and see them under conditions that probably few men do. Some years ago we were led to this early removal of cataract from necessity in cases in which we saw rapid swelling, and on removal we found that the cases did better; but not that alone, for we found that in cases in which the foreign body was in the eye, with traumatic cataract, though the inflammation subsided the eye had to be removed later. The eyes were lost from secondary glaucoma, and we believe that the swelling of the lens with the great amount of traumatism and the blood that is often found in these eyes were responsible for it, and the increased tension was the cause of the loss of the eyes, and early removal of the lens gave us better results. It is my practice now to do that. Dr. Donovan has shown some pictures here, and I only wish he had shown you the one of the "muckers." We find that the majority of our cases from blasts occur among the "muckers." A small piece of dynamite that has not exploded remains and the man strikes it with his pick and the blast flies up in his face. Most men injured in dynamite explosions require the undertaker, but with these small pieces of dynamite it is the man who is stooping or picking and the blast comes up directly in his face. Both eyes are probably injured and one eye is probably destroyed so that enucleation is necessary, and he has a traumatic cataract in the other eye, and the proposition is to give that man sufficient vision to enable him to earn a livelihood. It will be seen from the sections shown that these eyes are in the majority of instances glaucomatous, and it is the early stage, the time of tension, that brings the destruction of vision. Another point is that the force of the explosion is so great, there is such a great disturbance of the lens, that we have this rapid swelling. No man in doing a needling operation would have the same amount of disturbance of the lens that we have in all cases, but has sometimes found that twenty-four hours later he has had to do an extraction. And that is the condition we have. I think there probably are conditions the other men mentioned in which early removal is not necessary, but with us it becomes an absolute necessity.

DR. JOHN E. WEEKS, New York: I think that the expression of Bowman in regard to ordinary injury to the lens, as quoted by Dr. Donovan, sums up the question very clearly,

that every case must be judged on its own merits. When we produce a traumatic cataract as we do in needling for high myopia, or in needling for congenital cataract, we have a condition which resembles to some extent the traumatic cataract produced by injury from other causes. It is not a fact that vision will be lost quickly by an increase in tension and secondary glaucoma; that is, there is ample time for the surgeon to observe the condition and to perform his operation before damage of any consequence is done to the eye. I have found in my practice that if an increase in tension exists for from twenty-four to seventy-two hours the vision is not impaired, in the majority of cases, at least. It is my practice after I have produced traumatic cataract to remove the lens in twenty-four or forty-eight hours after increase in tension occurs. Now it is also found that if we permit the lens substance to swell and become opaque its removal is more easily accomplished than if we attempt to remove the clear lens substance. The adhesion to the capsule is not so great and we can wash it out more easily. Consequently it has seemed to me that in all cases in which it can be done with safety to the patient it is better to wait until the lens substance is somewhat opaque. It would seem to me the principle of removing the lens as soon after it has become injured as possible is rather a wrong principle to act on, but each case, as I said before, should be treated on its own merits. Increased tension that has existed for any length of time is of course dangerous to the eye.

DR. W. E. LAMBERT, New York: My experience is much the same as that of Dr. Weeks. I have done quite a number of cataracts with high myopia. The indication for the removal of the lens in these cases has been dependent on the effect of the needling and the time after the traumatism has varied very much; but I think, as Dr. Weeks says, we cannot advise the immediate removal of traumatic cataract, but it must be removed when the condition of the lens makes it most favorable for extraction, by any method, washing out, etc. I remember a case of injury in which a man was playing racquets. His glasses were broken and a large piece of glass had penetrated the eye. The late Dr. Bull and also Dr. Weeks saw the patient. I saw the patient within a few hours and detected a large piece of glass in the lens. The next day the lens began to be opaque, but the formation of the cataract was slow. The eye remained pretty quiet and by the advice of Dr. Bull we decided to wait a few days. Within two days, I think, after the accident the lens had swollen sufficiently to justify an attempt to extract the foreign body and wash out the lens. He advised very strongly against it and we waited. Six days after this symptoms of glaucoma set in rather severely, and I insisted that something be done or that somebody else take charge of the case. Quite an acute attack of glaucoma supervened. The extraction was done, the lens washed out and the man made an uninterrupted recovery and has to-day 20/15 vision in that eye. It is not always necessary to operate at once. I have had similar experiences with various cases of high myopia that I have operated on, so that I think every case is to be treated according to the indications as they arise.

DR. EDGAR S. THOMPSON, New York: It seems to me there are two very distinct points to be made in connection with Dr. Donovan's paper. The first is whether we get the case before the wound has healed up. By the time the inflammatory reaction has set in and the original wound of entrance has healed, the question is of course a different one. Any operation then will give a greater disproportionate reaction than in the preinflammatory period. If the inflammatory period has set in, then we will get a greater reaction. Whether removal is done in the first period or not depends on whether sufficient disturbance of the lens has occurred to cause swelling. If that has not occurred I think it is better policy to wait and not to subject the eye to the shock of the removal of the lens, because it undoubtedly, *per se*, causes a good deal of traumatic disturbance. With regard to the effect of increased tension, I agree with Dr. Weeks that increased tension is a very different matter from the increased tension in the glaucomatous eye and is not so serious. I think if we study the tonometer work for equal measurements there will not be the same reduction of sight in traumatic cases as in an equal time in glaucomatous cases. With regard to Dr. Donovan's cases, I take it that he sees them early and the lens is hashed up, and in such conditions I would agree that we should immediately remove the cataract.

DR. J. A. DONOVAN, Butte: The danger in any change from a well-established method of treatment is of course that we become too radical on the other side. I favor getting most of these lenses out as soon as we can do so, but there are a great many of them that it is not good policy to treat in this way at once. In some of these injuries one feels certain that there is going to be cataract, and it may not develop. One reason I give is that after the second day the swelling is so intense that nothing can be done. On the other hand if there is any strong probability that the lens will not have to be removed I consider it best to wait. The general principle is that as soon as I am convinced that the lens should be removed, I remove it at the earliest possible moment, if I feel it can be done with the greatest safety to the patient.

DISTORTIONS OF THE VISUAL FIELDS IN CASES OF BRAIN TUMOR

HARVEY CUSHING, M.D., AND GEORGE J. HEUER, M.D., BALTIMORE

(*Concluded from page 208*)

ABSTRACT OF DISCUSSION

DR. SHERMAN VOORHEES, Elmira, N. Y.: In two cases recently under my care in which decompression operations were done this interlacing and inversion of the color-field is present.

DR. HIRAM WOODS, Baltimore: In reviewing these cases I find that there have been in most of them, in addition to the color-interlacing, certain symptoms that would at once lead the ophthalmologist to expect something else besides an ocular lesion. For instance, there have been one or two cases of Jacksonian epilepsy in this report, and various functional symptoms in various parts of the body, and these things themselves, in association with any field-abnormality at all will lead the ophthalmologist to consult the neurologist. On the other hand there are cases in which we see color interlacing with optic neuritis, without any other symptoms. Now the orthodox interpretation of that has been hysteria, as we know. In the case of one patient whom I believe Dr. Cushing subsequently operated on, I saw that interlacing of the color-fields without any other symptoms at all, without any optic neuritis, and made the diagnosis of hysteria from the absence of any other nerve symptoms at all. Now a very practical question for us ophthalmologists to know about is this: When we get hold of cases with this interlacing of the color-fields alone, without any other symptoms on the part of the nervous system, how are we to interpret it?

DR. WALTER S. FRANKLIN, San Francisco: Dr. Cushing said the fields seemed to vary with different observers, and I feel that here we have a chance to make an improvement in our methods. The personal equation enters largely into the taking of the color-field. Different men get a difference of 5 to 10 degrees with the same patient, and each feels that his results are correct. Are there any particular details of taking the color-field, difference in style of perimeter, whether self-recording or not, or are there any details that Dr. Cushing can give us so that we can standardize our methods of taking correct perimetric measurements?

DR. JOHN E. WEEKS, New York: Has this interlacing of the fields been noticed in conditions other than tumor, as, for instance, abscess of the brain; is it also characterized by interlacing of the fields? Is any color but blue affected? Is the red field found interlacing at all with the green, or does it affect simply the blue field in relation to the red?

DR. LEWIS S. THORPE, Los Angeles: How long does this interlacing of the fields persist? Is this symptom constant throughout the course of the development of the tumor, or does it become lost in the later stages? We have had a very interesting case of cerebellar tumor here in this city the past winter. I made the diagnosis, but at the time I made it I was not satisfied that I had true interlacing of the fields.

The color-fields overlapped I believe, at only two points, but the case was very well developed at the time. The patient has been operated on since with very brilliant results. The patient was referred to Dr. Lobengier, one of our local surgeons. At the first operation he did not succeed in removing the cyst wall, but did so at the second operation. The two symptoms that brought this patient to me were headache and vomiting. The young man had had an appendectomy, and a great many measures had been taken to relieve the headaches. He had been East. At the time he consulted me the papillitis was so very well marked that the diagnosis was easily made. This patient was also seen by Dr. Orbison of this city who might add something to the discussion. But I am anxious to know about the interlacing of the fields because at the stage at which I got this young man I was not satisfied that there was a true interlacing, though the fields were taken a great many times.

Dr. Harvey Cushing, Baltimore: I doubt not that we would have recorded this case that Dr. Thorpe speaks of as one of interlacing with one or two points. I would like to know how many points were taken. The showing of some turning in of the blue field at the periphery in a patient with cerebellar tumor will be as much as we can expect. We cannot subject these patients to very long detailed observation. Here the diagnosis is so definite that it is hardly necessary to lay much stress on this condition which we hope may be of some use in the early stages when the papillitis, if we want to call it that, may be present.

Dr. Woods' questions are a little difficult to answer. There are of course many functional disturbances, possibly sensory disturbances, that we do not recognize as anything else but functional, in people who may possibly have organic lesions. There are sensory disturbances as brought out by the two-point tests which have an organic basis. These people with Jacksonian epilepsy have been patients in whom the lesion has been certified, and they were people in whom one would have expected a sufficiently high grade of tension to have caused an extensive choked disk. One of these patients—and this will answer again Dr. Thorpe's question—had had interlacing, observed over a period of a year, and the neurologists who had seen this patient, and many of us, were very much concerned about his condition. We did not believe it was possible that he was harboring a tumor. He had had Jacksonian epilepsy, he never had any headache or gastric disturbances of any sort; in fact, no pressure symptoms such as we usually consider, or in the past have considered, essential to a diagnosis of tumor. His focal attacks persisted and became so frequent that it seemed best to make an exploratory operation, and this disclosed, as I reported in this series of cases, the largest one of the benign tumors that has occurred in this series of 250 cases (we have only spoken of 200 from the standpoint of the eye-ground). It weighed 198 gm.—almost as large as the fist. Here was an individual who had gone a year with but little contraction of the color-field with this definite interlacing, and at many points. We may perhaps tend to call conditions interlacing of the fields which are not strictly so; possibly, endeavoring to make the matter register, we may have gone a little further than we were justified in doing. The condition varies at different times. Fatigue may have something to do with this. The same person taking the field in the same individual, perhaps a few hours later or the next day, may register a different field. But it shows this tendency, as a patient with indications of bitemporal hemianopsia may differ from day to day; the field assumes a somewhat different configuration, and it shows that one must generalize rather than particularize about these conditions. I do not know how to interpret interlacing. We are rather inclined to interpret it as a manifestation of pressure. It disappears, usually, before the choked disk has disappeared. I presume the persistence of the choked disk means that conditions have arisen secondary to the long-standing tension; conditions that have set up a reaction in the nerve, with round-cell infiltration, with new tissue formation, which leads to the persistence of the stasis and prevents the swelling of the nerve-head from subsiding rapidly. But there are people without very much change in the nerve-head in whom the fields widen out and assume normal color relations without any very evident subsidence at all in the choked disk.

In answer to Dr. Franklin's question, I, too, wish there could be a standardization of these matters. I have, perhaps, in what I have said, made some answer to the question. We use also a 0.5 disk with pure colors, and some of the fields with low vision must be plotted with 1 cm. or larger disks.

There are other conditions, Dr. Weeks, that cause this—abscess, serous meningitis, etc. In not all of the 200 cases has the tumor been certified, many, perhaps, not certifying until six months or a year after decompression, when after a number of months the tumor has given evidence by producing neighborhood symptoms. Blue is the widest field, and possibly for that reason may be the field the restrictions of which are most seen. It does affect the other colors; sometimes the red is within the green, and the blue and red interlacing with the green field, but we have felt that we could get as much out of the blue and red periphery as if we took an extra periphery, and hesitating to give the patient a longer ordeal than necessary we have disregarded the green field.

I do not know how long the interlacing persists. As I have said in the paper, here is one that has persisted for a year, and the interlacing and the epilepsy were the only symptoms that the patient had, and shortly after the operation they had disappeared. This cerebellar case I presume we would have regarded as one showing interlacing.

Therapeutics

HEAT PROSTRATION AND SUNSTROKE

It is customary to divide the cases of illness due to excessive exposure to high temperature into two classes: one is distinguished as heat exhaustion; the other as sunstroke, or thermic or heat fever. It is important to recognize the distinction between these two classes of cases, as their treatment is entirely different and distinct.

Heat exhaustion is considered by many as a milder affection, although it frequently results in death. It may occur in those who are not exposed to the direct rays of the sun, but who are engaged in occupations which are accompanied by unusual heat, such as bakers, laundrymen, and foundrymen. It is associated with vasomotor paralysis. The beginning symptoms usually are dizziness, slight headache and throbbing in the head, nausea, and sometimes diarrhea; these symptoms increasing, the patient becomes cold, the skin becomes pale and clammy, great prostration ensues, the patient is restless, and may become unconscious. The temperature is usually subnormal, and is never elevated. The pulse is weak.

The treatment of this condition embraces removal of the patient from the influence of the excessive heat to which he has been subjected. If he has been out of doors in the sun, he should be immediately removed to the shade, and as quickly as practicable be taken into a house or to a hospital. He should be placed in bed in a room which is cool and well ventilated. The clothing should be loosened so as not to interfere with respiration or circulation, and his working clothes should be removed, and hot applications, such as hot water bottles or hot bricks, should be placed around his extremities so as to restore the circulation and make him warm. If he is unconscious so that he cannot swallow, inhalations of ammonia should be given by the nostrils. Cold applications, either cold cloths or an ice-bag, should be made to the head; a mustard paste should be applied to the back of the neck and over the spine; and if the respiration is obviously impaired, a hypodermatic injection of 1/100 of a grain of sulphate of atropin should

be administered. If the heart is weak, a hypodermatic injection of 1/30 of a grain of strychnin sulphate should be given. As soon as the patient is able to swallow, he should be given half an ounce or an ounce of whisky, unless he was already under the influence of this drug before the attack came on. If the circulation is improved, the body becomes warm, and the patient regains consciousness.

A stimulating enema may be administered to move the bowels. The condition of the bladder should be investigated, and if the secretion of urine is scanty, the patient should be given copious draughts of water, and a little later an attempt should be made to give him nourishment, preferably in liquid form, and preferably hot, or at least warm.

In the second class of cases which are termed sunstroke or heat fever, the patient will be found in an entirely different condition. Usually on the arrival of the physician the patient will be found to be exceedingly hot, with a dry skin, a congested face, with veins swollen and arteries throbbing. The patient's temperature will usually be found elevated to from 105 to 110°, or even higher. There is great restlessness; the breathing may be stertorous; the pulse is full and rapid; the pupils, dilated at first, may become contracted, and unconsciousness may rapidly supervene. These symptoms may have come on without very much premonitory warning. They require prompt and active treatment.

As in cases of heat exhaustion, if the patient is in the sun, he must at once he removed to the shade, and as soon as practicable to a cool and well-ventilated room. His clothing having been removed, and his temperature having been taken, he should, if practicable, be at once placed in a tub of water at a temperature of 80 F., to which ice should be gradually added. At the same time, ice should be applied to the head. While the patient is in the ice-bath, he should be rubbed vigorously to promote the peripheral circulation and bring the hot blood to the surface of the body where it may be cooled. The temperature should be taken in the rectum every fifteen minutes, and as soon as it has fallen to 102 the patient should be removed from the bath; otherwise the temperature may continue to fall until it becomes subnormal, and the patient may pass into a condition of collapse. Ordinarily this bath should not be continued longer than from twenty to forty minutes, but it may be repeated after an interval of two, three or four hours if the temperature should again become elevated. In some of these cases in which it is obvious that a congestion of the internal viscera is embarrassing the action of the heart, venesection may be performed, and a pint of blood may be removed. This loss of liquid from the circulation may subsequently be restored by the injection of physiologic saline solution, if it is deemed advisable.

If there seems to be a tendency to edema and congestion of the lungs, a hypodermatic injection of 1/100 of a grain of atropin sulphate should be administered.

If, after the temperature has commenced to fall, the pulse becomes weak, half an ounce or an ounce of whisky should be administered by the mouth, if the patient is able to swallow, unless he has been under the influence of it at the time of the attack. In that case, a hypodermatic injection of 1/30 of a grain of strychnin sulphate may be administered.

If the elevation of the temperature is not so great, or if the use of the bath is impracticable, the patient may be laid on a cot, over which a rubber blanket has been placed, and a sheet wrung out of cold water may be wrapped about him. He may then be rubbed with ice. After the sheet has become warm it may be removed and another one which has been allowed to soak in cold water may be substituted for the first.

In some cases it may seem wise to administer an antipyretic drug. Acetphenetidinum may be used, but its action should be carefully watched. In most cases the cold bathing is far preferable to the use of any antipyretic drug.

Even if the patient apparently rapidly recovers, he should be kept quiet in bed until his temperature and pulse have been normal for forty-eight hours. He should be given light nourishment at first in liquid form, and at first preferably hot.

Persons who have been the victims either of heat exhaustion or of heat fever often suffer more or less from the effects of heat during the remainder of their lives. It is always wise to warn patients or their friends of this possibility, and to direct them to avoid, as far as possible, exposure to the direct rays of the sun or to overheated rooms during the summer. They should be advised to practice cold bathing, and, if possible, sea bathing during the summer months. Sometimes the administration of tonics, and especially quinin sulphate combined with strychnin sulphate or extract of nux vomica, has seemed to aid these persons in withstanding the effect of the summer heat. Persons who seem to be predisposed to be affected by the heat should avoid exposing themselves as much as possible. They should dress lightly, should drink plenty of water, should avoid indulgence in alcoholic drinks, should keep their heads as cool as possible; and some recommend that the back should be protected by sewing an extra piece of flannel into the inside of the shirt so that it may protect the spinal cord. These precautions may wisely be observed by everyone in hot weather, and especially when an excess of humidity in the atmosphere diminishes the perspiration of those who are working, or are exposed to very hot air.

Some patients who have suffered severe sunstroke find that their memory is greatly impaired afterward, and that they never have the same mental ability and memory. Little can be done to benefit this condition, but if one feels that he should give the patient something in the hope that it may do some good, probably nothing will be more likely to prove beneficial than the glycerophosphate of calcium or some form of phosphorus.

Not infrequently infants and young children suffer from the effects of extreme heat. This condition should be looked for in children who are suddenly taken ill in the hot weather without any apparent reason. If they are found suffering from a high temperature for which no other explanation can be found, and if the history of the case shows that they have been exposed to high temperature, they should be placed under favorable conditions in a cool, airy room, and given a sponge bath of cool water, and cold drinks should be administered. If the heart becomes weak, small doses of whisky, well diluted, may be administered.

Sometimes after exposure to excessive heat there is twitching of the muscles, and even severe convulsions. When the convulsions occur and continue they may be controlled by a hypodermatic injection of ¼ grain of morphin with 1/150 grain of atropin. If they resist this treatment, the patient may be anesthetized by the administration of chloroform, or a rectal enema containing 2 gm. (30 grains) of bromid of sodium and 1 gm. (15 grains) of hydrated chloral may be adminstered and repeated, if necessary, after one hour.

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THE PECTINEUS MUSCLE IN GREEK SCULPTURE

It is well known that the Greek sculptor's knowledge of anatomy was not based on scientific dissection, but on the daily observation of hundreds of nude athletes exercising in the palæstra—a vast advantage over the ways of the modern artist who depends on his model or his teacher of anatomy for his knowledge, and never sees the nude figure in action, but only in repose.

Those who heard or read Sir Clifford Allbutt's interesting address on "The Historical Relations of Medicine and Surgery" at the St. Louis Exposition in 1904 may remember that he emphasized a certain muscle in the groin, originally noted by the distinguished archeologist, Professor Charles Waldstein, which was known to the sculptors of the Periclean age, but has escaped the attention of modern students of artistic anatomy because it is not superficially visible in the normal subject to-day. This muscle, highly developed in the stress of Greek athletics, is, in effect, either the pectineus or the iliopsoas, which lie on the floor of Scarpa's triangle. Professor Waldstein describes a torso from the metopes in the friezes of the excavated Heræum near Argos (one of the great sanctuaries of ancient Hellas), which exhibits this peculiarity in a remarkable manner.[2] The figure represents a nude warrior-youth "in the supreme moment of contest," throwing all the weight of his body against an Amazonian adversary, of whom nothing remains but a short, dainty, dimpled, unmistakably feminine hand, pressed against his side. This torso, which Professor Waldstein regards as one of the finest examples of modeling from the nude which the Greek sculptors have left us, has a curious round protrusion in the groin, like a bubo or incipient hernia, which anatomists have not been able to explain except as the result of strain or pathologic enlargement of the glands. Dissections made by the archeologist's brother, Dr. Louis Waldstein of London, show that the nodule is not connected with the muscles bounding Scarpa's triangle (clearly defined in the torso), but must be the forcibly contracted pectineus, which extends from the outer ridge of the pubic bone to its insertion directly under the lesser trochanter of the femur. While the pectineus is hardly noticeable in the average living subject, lying normally hidden at the bottom of Scarpa's triangle, experiments made by Dr. Waldstein on two of the most powerfully developed professional athletes in London demonstrated clearly that the nodule in question was a muscular formation, not seen in repose, but thrown into striking relief when the subject assumed the exact attitude of the torso, throwing all his body-weight on his bent left leg, with the right upraised, and with the superadded strain of pushing against an adversary with all the weight of his trunk.

This feature of the torso, far from being an abnormality, therefore, only goes to show the wonderfully close notation of visible, palpable, external anatomy on the part of sculptors of the age of Polycletus. Besides the pectineus, there is a marked and almost conventional line running along the groin from the ilium to the pubis to be found in all ancient statues of athletic prize-men, but not regarded as true to nature now-a-days. Concerning this line Professor Waldstein writes: "It is true that it is not a frequent occurrence in so marked a form among men in our day; but I have found numerous instances as clearly defined as in any Greek statue. I attribute its atrophy in our day to the wearing of clothes, especially trousers and braces, which have transferred the weight-carrying exercise of the torso to the shoulders and have thus relieved the abdominal region and its muscles from their function and caused these muscles to atrophy."

1. London, 1905, p. 7.
2. Waldstein, Charles: The Argive Heræum, Boston and New York, 1902, i, 186. See in particular the beautiful photograph of the torso on Plate xxxiv.

THE GERMICIDAL PROPERTIES OF DISINFECTANTS

Formerly, it was almost an article of faith that disinfection of rooms and houses which had been occupied by a person suffering from an infectious disease, and of the clothing with which he had been covered, or of anything in proximity to which he had been placed, should be undertaken as an ordinary preventive measure. This was regarded as more or less a safeguard against the spread of disease. Although, perhaps, the belief in terminal disinfection has wavered to some extent recently, the great majority of the medical profession here and in Europe still strongly recommends disinfection after the occurrence of a communicable disease.

Whatever one's views may be as to the efficacy of disinfection in preventing the spread of disease, all will agree that if disinfectants are employed as such, they should be possessed of effective germicidal properties. It is concerning the efficacy of what is known as terminal disinfection that some health authorities profess themselves doubtful, and it is for this kind of disinfection that commercial disinfectants are largely used.

To obtain satisfactory disinfection it is necessary to use a disinfectant which is not only a deodorizer or antiseptic, or both, but a germicide. As a matter of fact, the deodorizing and antiseptic properties of a disinfectant in the presence of disease germs are of little moment. The real need is for a disinfectant which will destroy the

specific organisms of disease. If it does not do this, its employment is worse than useless.

Little is definitely known as to the germ-destroying properties of the commercial disinfectants used in this country. They are generally purchased on faith, with no guarantee that they are what the makers claim. In Europe there is some guarantee that the disinfectants on the market are genuine and efficient germicides. There are means for protecting those who purchase disinfectants, from employing an article which may be a deodorant or an antiseptic, but which does not possess the requisite germicidal properties. There are several methods in use with this object in view, none truly ideal, but some of which act at least as a partial protection to the public against misrepresentation. Of all these methods, the one mainly employed and officially recognized in Great Britain and in some other parts of Europe is that termed the "drop method." This method was devised a few years ago by Dr. Rideal and Mr. Walker and its principle and technic are simple. Various strengths of the disinfectant to be tested are made up with distilled water and their germicidal action is compared on the typhoid bacillus, the standard organism usually employed, with a solution of phenol of a certain strength, say 1 in 100. Then by continued experiments a strength of the disinfectant will be found which will be identical in its germicidal properties with the aforementioned solution of phenol. In short, this disinfectant will destroy typhoid bacilli under similar conditions in exactly the same time as the phenol solution. Therefore, this solution of the disinfectant divided by the phenol solution is termed the coefficient of the latter.

The Rideal-Walker method is by no means perfect, and has been subjected to much adverse criticism. The principal objection urged against it is that a coefficient obtained by experiment in distilled water may convey a misleading impression as to the potency of the disinfectant when mixed with organic masses as pus or fecal matter.

Aside from this objection the method permits considerable latitude in determining the coefficient so that according to the bias of the operator a difference of 33 per cent. may result. Various methods have been introduced to overcome these defects and the *Lancet* method, so-called because adopted by a commission appointed by the London *Lancet*, appears to be a decided improvement. It is, however, not free from faults. J. F. Anderson and J. B. McClintic[1] working in the Hygienic Laboratory of the Public Health and Marine-Hospital Service have presented a method which insures great uniformity in technic and gives more satisfactory results than those previously obtained by either the Rideal-Walker or the *Lancet* method. They have combined the best features of both methods.

Perhaps no liquid disinfectant has been produced as yet which will thoroughly disinfect solid masses of organic matter, such as feces, but these masses can be rendered harmless by other methods, notably by heat. It is bedside and after-disinfection which is here discussed. This possesses a wide field, for it must be borne in mind that an efficient liquid disinfectant is able to destroy not only naked bacteria, but even, it is said, disease germs surrounded by small quantities of fat.

Under different conditions the employment of different disinfectants is indicated, but each and all must possess the necessary germicidal properties. There should be some means, therefore, of ascertaining the germ-destroying capabilities of commercial disinfectants. At the present time, there are no such means available in the United States. According to health authorities of Europe and Great Britain, the great good that the introduction of the Rideal-Walker method has effected is that it has raised the standard of disinfectants and has acted as a check on those manufacturers who were foisting, or who were willing to foist, an unreliable article on an ignorant and confiding public. It is the case over again of proprietary medicines and foods in this country.

The time appears to be ripe for the adoption of some standard for the valuation of germicides and their distinction from antiseptics. Considerable work along these lines has been done. It merely lacks united action to carry the matter into effect. We have in the Council on Pharmacy and Chemistry a body which would seem eminently qualified to undertake the work. It is composed of scientists whose reputations are beyond reproach, and who are sufficiently fearless not to be daunted by the attacks of the proprietary concerns whose products might be affected. If the Council would undertake this work and seek the cooperation of the health authorities of the various states, of the United States Public Health and Marine-Hospital Service, and of others interested, a suitable method of standardization could be selected so that antiseptics and disinfectants could be judged and sold on the basis of their real value.

1. Jour. Infect. Dis., January, 1911, viii, No. 1.

Current Comment

PASTEUR

"A Study in Greatness" is the sub-title of a brief sketch of the career of Pasteur, by Prof. F. W. Martin.[1] In the spirit of Carlyle, Martin shows the origin of the racial concept of greatness, and having discovered a fundamental similarity in the works ranked as great, he offers as a hypothesis this interpretation: They all relate to the heroic. He gives an exceedingly interesting outline of Pasteur's life, pointing to the tenacious purpose of the great Frenchman's genius, showing how the results obtained by minute microscopic investigations were conceived by this master-mind as macrocosmic laws. Of the discovery of racemic acid, Martin says that, measured by its ultimate results, it was doubtless the most far-reaching discovery ever made, being in one

1. Popular Science Monthly, July, 1911.

direction the germ of a new science, stereochemistry; in another, transforming medicine and agriculture from empirically practiced arts into true sciences. This discovery, made at the age of twenty-five, was the first great manifestation of Pasteur's "marvelous capacity for seeing the unseeable." Holding to the "sure road of experimentation," he broke roads into a new world, and created on his way new sciences which should serve in its exploration. Making discovery after discovery unparalleled in universal importance, his genius compares with other milestones in our civilization—Newton, Copernicus, Galileo—as a solar system compares with an isolated star. In 1868, in the midst of many and great investigations, Pasteur was struck by a series of paralytic shocks, but, says Martin, although crippled in body, the work accomplished by Pasteur during his remaining twenty-seven years was not only stupendous in amount, but of transcendent importance to mankind. The example afforded by the heroic labors of the paralyzed Pasteur cannot be matched from the annals of all time. Our conceptions of greatness need constant revision, the term being so often applied to comparatively insignificant incidents in every-day life that it loses its meaning. The article cited is an aid in such revision.

A MICROSCOPE FOR TWO

A new device which will appeal to all users of microscopes is the arrangement of two separate oculars with one common objective, allowing two persons side by side to look at the same field, so that an instructor may describe to a pupil what should be observed by the latter while both are looking at it, so also that an artist can make a drawing under the direction of the microscopist, etc. Appreciation of its value will doubtless be expressed by all users and the question will be asked, why it was not invented before. Thus far we have heard only of the instrument's being exhibited in France, but in due time it will probably be introduced into this country.

INCOMPATIBILITY BETWEEN INTERNAL AND EXTERNAL APPLICATIONS

That certain drugs administered internally may cause a dermatitis in susceptible persons is well known. Quinin and bromids are examples. Another fact, perhaps not so well known, is that a dermatitis may also be set up if certain drugs are taken internally at the same time that certain other drugs are applied externally. Miro[1] refers to an instance in which hydrogen dioxid was applied externally while potassium iodid was being taken internally. Hydrogen dioxid and iodin preparations, used at the same time externally, may also cause intense burning in the skin. Mendenhall,[2] some time ago, called attention to a case in which the use of so-called colorless tincture of iodin, prepared by adding ordinary tincture of iodin to sodium thiosulphate to displace the color, in connection with an ointment of ammoniated mercury, caused a dermatitis, the author believes, on account of the formation of the irritating mercuric iodid. In the case of the iodin salt and the hydrogen dioxid, the latter probably acted as an oxidizing agent, setting free the iodin which caused the irritation. Other oxidizing agents, with the iodids or with mercurous salts, might act similarly. Another instance of an internal and external incompatibility would be sulphur taken for some time internally, and a solution of a mercuric salt applied externally. This might result not in a dermatitis, but in an unpleasant black deposit of mercuric sulphid in the skin, the sulphur being excreted by the skin.

1. Miro, A. P.: Revista Med. Cubana, March, 1911.
2. Mendenhall, A. M.: Chemical Dermatitis from Incompatible External Applications, THE JOURNAL A. M. A., May 13, 1911, p. 1389.

PROFESSOR HEUBNER AND MARETIN

The good work which Professor Heubner, the editor of the *Therapeutische Monatshefte*, is doing for therapeutic advance has been referred to before. In the Current Medical Literature department of this issue there appears an abstract of an article by him on the proprietary remedy maretin (page 256, abst. 108). The article is interesting in that it shows that the valiant editor is not afraid to attack the products or methods of influential firms, for maretin is sold by one of Germany's most prominent manufacturers, the Farbenfabriken of Elberfeld Co. It brings out an important point, namely, that often a new remedy is heralded as a most wonderful discovery, but when tried is found wanting and is soon almost forgotten by the profession. Then after a period of quiescence it may be again "pushed" by the manufacturers, and this regardless of the unfavorable results obtained with it when first introduced. Maretin was first put out in 1904 as "detoxicated acetanilid." It was tried, found unsatisfactory and by no means non-toxic. Now it appears to be again brought forward in Germany and Professor Heubner deserves credit for his handling of the matter. It is to be hoped that Heubner's discussion may be the means of preventing the introduction of this preparation in the United States.

Clinical and Histologic Effects of Total Arrest of Circulation for an Hour.—Depage of Brussels was operating on a boy of 15 for osteomyelitis of the femur when the patient's heart stopped beating. Notwithstanding all measures for resuscitation for a whole hour, including massage of the heart, there were no signs of revival, but then a pint of salt solution was infused and under the influence of this the massage of the heart proved successful and the boy was resuscitated. His mind, however, seemed affected; he was agitated and delirious, but there were no motor disturbances or modification of the reflexes. He remained in this condition for nine days, the temperature going up to 40.5 C (105 F.) and then he died. The university pathologist, R. Sand, examined minutely innumerable sections of the brain and other organs, regarding the case as equivalent to a laboratory experiment on the effects of total arrest of the circulation for an hour, conditions in the brain having been practically the same, he thinks, as when the circulation has been shut off from an organ by a ligature. His report was read at a recent meeting of the Belgian Académie de Médecine. It stated that there "was not a single nerve cell intact in the entire extent of the cerebrospinal axis," and, further, "that the case teaches the value of saline infusion as an adjuvant in chloroform accidents." Sand's conclusions were qualified by the academy, in accepting the report, as being "rather too sweeping"—the patient had not exhibited symptoms which would have been inevitable if every nerve cell had been injured.

Medical News

ALABAMA

Personal.—Dr. Merrick D. Thomas, Waverly, has been appointed clinical instructor in obstetrics in Birmingham Medical College.——Dr. George Rau, Tuscaloosa, has subleased the Tuscaloosa Infirmary and has assumed complete control of the institution.

Fresh Air Camp.—The committee chosen from the Montgomery Antituberculosis League to examine sites for the fresh air camp has settled on a tract of land on the lower Wetumpka Road and hopes to close the deal at once. The league has about $1,000 at present in its treasury.

ARIZONA

Personal.—Dr. and Mrs. Francis H. Redewill, Phoenix, have returned from Europe.——Dr. George D. Troutman, Tucson, who recently underwent an operation in St. Joseph's Hospital, Phoenix, has recovered and resumed practice.

ARKANSAS

Personal.—Dr. John M. Taylor, Fort Smith, was operated on for appendicitis at St. Edward's Infirmary in that city, June 7.——Dr. Samuel E. Thompson has been appointed a member of the board of health of El Dorado.——Dr. A. Earl Hardin has been appointed health officer of Fort Smith.——Dr. Arthur G. Thompson has been reelected president of the board of health of Pine Bluff.——Drs. Curtis W. Chaffin and Albert L. Wilsford, Moro, are ill with septicemia, due to operation wounds.——Dr. Anderson Watkins has been elected medical director of the Little Rock School Board vice Dr. James H. Lenow.

State Board Appointments.—The governor has appointed the following members of the Eclectic State Medical Board: Drs. Rosco M. Jernigan, Fitzhugh; Samuel W. Moreland, Jonesboro; E. L. Sullivan, Poughkeepsie; M. C. Nixon, Smithville; Lycurgus Gardner, Atkins; Jonathon Darrough, Paris; J. O. Hinton, Hot Springs; W. Carl Dallingbaugh, Pine Bluff, and James L. Vail and S. G. Boyne, Little Rock.——Dr. Francis T. Isbell, Horatio, has been appointed a member of the State Medical Examining Board, vice Dr. Merrieman L. Norwood, Locksburg, and Drs. Montague Fink, Helena, and George S. Brown, Conway, have been appointed members of the board to succeed themselves.

COLORADO

Bequest.—By the will of the late Moses Stern, South Bend, Ind., $2,000 is bequeathed to the National Jewish Hospital for Consumptives, Denver.

Personal.—Dr. Seymour D. Van Meter, Denver, secretary of the State Board of Medical Examiners for ten years, has been made president of the board.——Dr. William C. Mitchell, Denver, has returned from Europe.——Dr. Perry F. Purdue, Sterling, was operated on recently for appendicitis and is reported to be doing well.

Divine Healer Cannot Accept Fee.—In the case of the people against Edward C. Smith, the so-called "divine healer," at Denver, the state supreme court has affirmed the decision of the lower court that the defendant could not accept a fee for the treatment of diseases unless he had a license from the State Board of Health. The court held that "the commercial practice of healing by prayer, followed as a money-making venture or occupation, is the practice of medicine within the plain meaning of the statute."

GEORGIA

Physicians' Building Planned.—The plan of the Realty Trust Company, Atlanta, to erect a ten-story office building to accommodate physicians and dentists of the city and to cost about $400,000, has been endorsed by the Fulton County Medical Society.

Personal.—Drs. John G. Wilkins and James P. Hall have been elected ward physicians of Atlanta.——Dr. John F. Harris has been elected chairman of the Board of Health of Dalton.——Drs. Ross P. Cox, George B. Smith, J. William De Lay and James C. Watts have been elected members of the Rome Board of Health.——Dr. Victor H. Bassett, Savannah, and all the members of his family are ill with typhoid fever in the hospitals of Savannah. One child has died.——Dr. Alfred L. Fowler has resigned his position as physician at the United States penitentiary in Atlanta.——Dr. William H. Doughty, Augusta, has been appointed a member of the State Board of Health to succeed the late Dr. James B. Morgan.

ILLINOIS

Society Meeting.—The Edgar County Medical Society held a meeting at Paris, June 22, and elected the following officers for the ensuing year: President, Dr. Byron G. Williams; vice-president, Dr. John W. Evinger; secretary-treasurer, Dr. George Hunt, all of Paris.

Asylums Exempt from Ten-Hour Law.—Attorney-General Stead, in an opinion rendered to the state board of administration, July 8, holds that the women's ten-hour law does not apply to any of the state institutions. He says that unless there is a specific provision in the act to the effect that the law applies to the state institutions it cannot be made to apply to them, as the state is sovereign.

Personal.—Dr. Albert E. Brown, Waukegan, has been reelected physician of Lake County.——Dr. Austin L. Green, Milford, is reported to be seriously ill.——Dr. Christopher D. Mowry, Aurora, is suffering from blood-poisoning as the result of a dog bite of the hand.——Dr. Ralph T. Smith, DeKalb, sailed for Europe, June 17.——Dr. Charles B. Dirks, Kankakee, has been appointed superintendent of the Elgin State Hospital, vice Dr. Frank H. Jenks, resigned.——Dr. James A. Rutledge, Elgin, has been appointed head physician of the Woodman Sanatorium, Colorado Springs, Colo.——Dr. Katherine E. James, Rockford, was injured while cranking her automobile. The extent of the injury is not yet known, but it is not thought that the wrist is fractured.——Dr. William T. Dowdall, Peoria, has been appointed local surgeon of the Illinois Central Railway Company in place of Dr. Robert C. Bradley, resigned.——Dr. Seymour H. Woodworth, Park Ridge, was seriously injured in an automobile accident near Lake Zurich, July 7.——Dr. George Steeley, Danville, has been appointed a member of the pension examining board, vice Dr. William A. Cochran, appointed chief surgeon at the Soldiers' Home Hospital.——Dr. Henry T. Godfrey, Galena, has removed to Omaha.

Chicago

Personal.—Dr. Paul Forgrave has been appointed house physician of the City Hospital, Akron, Ohio.——Dr. and Mrs. Olaf Martin Steffenson sailed for Europe June 24.——Dr. H. R. Schwarze has been appointed assistant director of the state biologic laboratory.——Dr. and Mrs. Edward L. Moorhead and son sailed for Europe July 4.

INDIANA

Bequest.—Mrs. Eva Wolli, who died recently from tuberculosis at St. Elizabeth's Hospital, Lafayette, bequeathed $5,000 for the establishment of a consumptive's cottage at that hospital.

Personal.—Dr. James H. Morrison, health officer of Bartholomew County, is seriously ill at his home in Hartsville.——Dr. George Miller, Hammond, is at St. Margaret's Hospital, suffering with malaria.——Dr. John P. Nicodemus, Logansport, has four fractured ribs and severe bruises and sprains, the results of an automobile accident.——Dr. and Mrs. Green V. Woollen, Indianapolis, received slight injuries when a speeding automobile crashed into their buggy.——Dr. Warren R. King, surgeon at the State Soldier's Home, has resigned.——Dr. Henry V. Passage, Peru, is reported to be critically ill.——Dr. John F. Glover, Evansville, for thirteen years assistant superintendent at the Southern Indiana Hospital for the Insane, has resigned.——Dr. James H. Walker, Henryville, has been appointed chief physician at the Indiana reformatory to succeed Dr. Richard H. Smith, Kokomo, who has resigned to become chief surgeon of the American Rolling Mill Company at Middletown, Ohio.——Dr. Charles E. Dutrow, Bristol, sustained severe spinal injuries recently in a fall.——Dr. Ezra W. Depew, Wolflake, is reported to be critically ill.——Dr. John L. Masters, Indianapolis, is rapidly recovering after an operation for appendicitis.——Dr. James A. Mattison, who has been connected with the hospital of the National Military Home for the past nine years, has been promoted to governor and chief surgeon of the Battle Mountain Sanitarium at Hot Springs, S. D.

MAINE

State Society Meeting.—The fifty-ninth annual meeting of the Maine Medical Association was held at Augusta, June 28-29. The annual oration was by Dr. Henry A. Christian, Boston, dean of Harvard Medical School, on "Modern Methods of Clinical Investigations in Relation to Hospital Organization." The following officers were elected: President, Dr. Stanley P. Warren, Portland; vice-presidents, Drs. William C. Peters, Bangor, and Luther G. Bunker, Waterville; secretary, Dr. Willis B. Moulton, Portland; treasurer, Edwin W.

Gehring, Portland; legislative committee, Drs. Seth C. Gordon, William L. Cousins, Stanley P. Warren and Willis B. Moulton, all of Portland.

MARYLAND

Personal.—Dr. William Dick Campbell, Hagerstown, suffered severe burns July 7 by the ignition of alcohol with which he had been bathing his arms.

State Board Sustained.—The Circuit Court at Towson has decided in favor of the State Board of Health against a deputy sheriff of Baltimore County, who had prevented the representative of the board from making an inspection of his property to ascertain whether or not sewage from his house flowed into Lake Roland, one of the sources of water supply for Baltimore.

Baltimore

Bequest.—It is understood that the bequest of the late Dr. Charles M. Ellis of Elkton of about $20,000 to the Medical and Chirurgical Faculty is to be applied toward the endowment of the library.

China Missionary in Baltimore.—Dr. Edward Hume, head of the medical staff at the Yale Mission in Chang-Sha, is visiting at his home in Baltimore. He was on duty through the uprising in China last year and is now enjoying a furlough of eighteen months.

Coroner Exonerated.—Dr. Otto M. Reinhardt, coroner of the southern district, who was charged with conduct unbecoming a state officer and with influencing a coroner's jury, was acquitted July 5, after a hearing by the governor, who did not even summon Dr. Reinhardt to give testimony.

Personal.—Dr. L. McLane Tiffany has recovered from his recent severe illness.——Dr. Christian Deetjen, *x*-ray specialist, underwent operation June 28 for burns of the hands brought on from exposure to the *x*-ray, fourteen such spots being cut out and fresh skin from the thighs transplanted to their sites.——Dr. Joseph B. Piggett, superintendent of the University Hospital, has gone to Grafton, W. Va., to take up private practice and has been succeeded by Dr. William Joseph Coleman, Mineral, Va.——Dr. Arthur P. Herring has succeeded Dr. Emil Novak as editor of the *Bulletin of the Medical and Chirurgical Faculty of Maryland.* His associates are Drs. John Ruhrah and John S. Davis.——Dr. Nathan Winslow has been appointed associate professor of surgery in the University of Maryland.——Dr. Edward Bailey Beasley has been given the degree of Doctor of Public Health by Harvard University. The title of Dr. Beasley's dissertation was "Permeability of Slow Sand Filters to Bacillus Typhosus."——Dr. James B. Bennett sailed for Bremen, July 7.——Drs. John M. T. Finney and J. M. H. Rowland are said to have been removed from the board of school commissioners by the mayor because they would not consent, at his dictation, to remove from office the superintendent of schools, against whom no charge had been made.——Drs. Alfred T. Chambers and James M. Delevett have been appointed members of the Board of School Commissioners to fill vacancies.——Dr. Harry Friedenwald has been elected president of the Federation of American Zionists.

MISSOURI

Birthday Gift.—A handsomely framed portrait of Dr. Oliver Wendell Holmes was presented as a birthday testimonial to Dr. Ambrose Talbot, medical director of the Kansas City Life Insurance Company, by the employees of that company, June 14. Dr. Holmes was Dr. Talbot's tutor in his college days.

Society Elects.—At the meeting of the North Missouri Medical Association held in Columbia, June 22-23, the following officers were elected: president, Dr. J. C. Lyter, Moberly; vice-presidents, Dr. Charles O. Davidson, Jefferson City, and Dr. W. O. Hawkinson, Roanoke; secretary, Dr. E. M. Gilford, Monroe City; corresponding secretary, Dr. J. Wilson, Kirksville.

Personal.—Dr. James A. Watermann, head physician at the state penitentiary, Jefferson City, has been elected superintendent of State Hospital No. 4, Farmington.——Dr. John Green, Jr., St. Louis, has been reelected director of the Missouri Crematory Association.——Dr. Ambrose W. Teel, Kahoka, has been appointed special examiner for Clark County for the Missouri State Sanatorium.

Million for Hospital.—At the meeting of the International Missionary Convention of the Christian Church, held at Portland, Ore., July 8, R. A. Long, a lumberman of Kansas City, announced that he would, during the next ten years, give $1,000,000 for the establishment of a non-sectarian national hospital to be erected on a tract of land thirty-eight acres in extent in Kansas City owned by the Christian Church. The donation is contingent on the raising of $1,000,000 by the church and on one-third of the beds in the institution being free.

NEBRASKA

Health Association Election.—The Nebraska State Health Association, at its annual meeting in Omaha, June 13-14, elected Dr. William H. Wilson, state health inspector, Lincoln, president; Dr. Solon R. Towne, Omaha, vice-president, and Dr. William F. Mitchell, Superior, secretary and treasurer. The next meeting will be held at Hastings in September.

New Sanitarium for Omaha.—Drs. Charles C. Allison, Harold Gifford, Frank E. Coulter, Joseph M. Aikin, Arthur D. Dunn, Willson O. Bridges and Frank S. Dunham, Cozad, and Dr. John W. Koutsky, South Omaha, are incorporators of the Hanscom Park Sanitarium which has secured the old Holdredge home on Thirty-Second Avenue, Omaha, and will convert the building into a thirty-room sanitarium and hospital for nervous and mental diseases.

Personal.—Dr. John M. Banister, Medical Corps, U. S. Army, retired, has entered into active practice as an oculist in Omaha.——Dr. Chester D. Barnes, Tecumseh, while shooting rats, June 22, suffered severe injuries by the accidental discharge of his gun, necessitating the amputation of a portion of the foot.——Dr. Hans P. Jensen, Omaha, is reported to be seriously ill with malignant disease of the stomach.——Fire in the office of Dr. Walter R. Townsend, Lincoln, June 30, caused considerable damage to his library and office equipment.

NEW JERSEY

Election.—The New Jersey Pediatric Society held its annual meeting at Atlantic City, June 26, and the following officers were elected: president, Dr. Henry L. Coit, Newark; vice-president, Dr. Alexander McAlister, Camden; treasurer, Dr. Benjamin Van D. Hedges, Plainfield; secretary, Dr. Martin J. Synnot, Mont Clair; councilors, Drs. Francis H. Glazebrook, Morristown; J. Finley Bell, Englewood; Thomas N. Gray, East Orange; Burdette P. Craig, Jersey City.

State Society Meeting.—At the annual meeting of the New Jersey State Medical Society held at Spring Lake, June 13-15, the following officers were elected: president, Dr. Daniel Strock, Camden; vice-presidents, Drs. Norton L. Wilson, Elizabeth; Enoch Hollingshead, Pemberton, and Frank D. Gray, Jersey City; corresponding secretary, Dr. Harry A. Stout, Wenonah; recording secretary, Dr. William J. Chandler, South Orange; and treasurer, Dr. Archibald Mercer, Newark. The next session will be held at Spring Lake in June, 1912.

NEW MEXICO

New Society Organized.—The physicians of Taos County met in Virsylvia recently and organized the Taos County Medical Club, electing Dr. Isaac N. Woodman, Cerro, president; Dr. Allison, vice-president, and Dr. H. H. Johnson, secretary.

Personal.—Dr. Celia W. Taylor Goodman, Albuquerque, who is about to leave for California on account of failing health, was presented with a silk umbrella, June 19, by the Bernalillo County Medical Society.——Capt. Charles F. Beeson, M.C., N.M.N.G., has been placed in charge of the organization of the hospital corps for the state militia.——Dr. Stanley G. Small, Santa Fe, was operated on for appendicitis recently at St. Vincent's Sanitarium, El Paso, Tex., and is making a satisfactory recovery.

NEW YORK

Permission Granted for Sanitarium.—The application of the Metropolitan Life Insurance Company for permission to build and maintain a tuberculosis sanitarium at Mount MacGregor has been granted.

Decrease in Death-Rate.—There were 34,506 births reported in Greater New York during the first quarter of the present year, an increase of 1,901 over the same period in 1910. The number of marriages reported was 11,495, an increase of 1,412. The number of deaths was 20,876, against 20,660 in 1910, an increase of 216, but the death-rate was 17 per 1,000 against 17.45 during the first quarter of last year, a decrease of 0.45 of a point. In children under 1 year there was a decrease of 468 deaths; in children under 5 years, a decrease of 1,099, and a decrease of 620 deaths in the ages from 5 to 65. In the group, 65 and over, there was an increase of eighty-five deaths.

New York City

Dispensary Opened.—The new building of the Hebrew Ladies' Dispensary on Williamsburg Street was opened with a parade without other ceremony, June 27.

Free Clinic for Mental Diseases.—The first free clinic for incipient mental diseases in New York City was opened in the Long Island State Hospital for the Insane, July 3.

Sydenham Hospital Closed.—The doors of the nine buildings comprising Sydenham Hospital were closed, June 30, until suitable alterations can be made or new hospital buildings erected which will comply with the regulations of the state board of charities regarding adequate air space and those of the building department concerning fire escapes, etc.

Personal.—Dr. Adolph I. Ringer of the department of medicine of Cornell University has been appointed instructor in physiologic chemistry in the University of Pennsylvania, Philadelphia.——Dr. William J. Robinson sailed for Europe July 1.——Dr. Joel Grosner had a narrow escape from death when he swallowed a solution of bichlorid of mercury, June 28, mistaking it for water.——Dr. P. Hanson Hiss, Jr., Brooklyn, has been appointed medical examiner by the state board of regents.——Dr. George R. Lockwood, Jr., is reported to be critically ill with gastric ulcer.

The Cholera Situation.—A steerage passenger on the steamship *Duca Degli Abruzzi* which arrived in New York, June 20, died at Auburn, July 1, from what is diagnosed as Asiatic cholera, and a second passenger on this steamer is said to have died in Brooklyn, July 4, from the same cause. The health officer of the port of New York, after conference with Surgeon-General Wyman of the U. S. P. H. & M.-H. Service, has decided that passengers arriving in New York on steamships on which there is any suspicion of cholera are hereafter to be detained ten days at quarantine instead of five as heretofore.——The steamship *Moltke* which arrived in New York from the Mediterranean, July 5, has been detained at quarantine on account of a case of suspected Asiatic cholera.

The Rockefeller Institute and Anterior Poliomyelitis.—The Rockefeller Institute for Medical Research announces that it will devote its resources very largely during the present season to the study of anterior poliomyelitis and the treatment of acute cases of this disease in its hospital. Physicians and health officers who desire to cooperate in this investigation may do so by sending information concerning the occurrence and prevalence of the disease or by referring acute cases to the Hospital of the Rockefeller Institute. Dr. Flexner renews his request of last year that whenever possible a portion of the spinal cord and of the naso-pharyngeal mucosa derived from fatal cases of the disease be sent to him. Specimens should be preserved in glycerin and sent by mail to Dr. Simon Flexner, Sixty-Sixth Street and Avenue A, New York City.

Bequests to Hospitals.—By the will of the late George L. Fox of Brooklyn, St. Catherine's Hospital will receive $25,000; Brooklyn Hospital, $20,000; Eastern District Hospital, $100,000; St. Mary's Hospital, $25,000; German Hospital, $25,000; Home for the Aged of the Little Sisters of the Poor, $50,000; Industrial Home for the Blind, $15,000; Brooklyn Home for Consumptives, $10,000; St. John's Hospital, $10,000, and the New York Ophthalmic and Aural Institute, $10,000.——The will of the late Charles Engert of Brooklyn gives St. Catherine's Hospital, $10,000; St. Mary's Hospital and Dispensary, $5,000; the German Hospital Society, $5,000, and St. Peter's Hospital, $5,000.——The will of the late Walter E. Duryea leaves $5,000 to the Nassau Hospital, Mineola; on the death of a sister the hospital is to receive $75,000, and Roosevelt Hospital receives $15,000.——The Presbyterian Hospital receives a bequest of $1,000 by the will of the late Samuel Hall.——The will of the late Martin Herman leaves $5,000 to Mount Sinai Hospital and $1,000 to the Beth Israel Hospital.——The will of George H. Morgan leaves $2,000 to the Hospital for Ruptured and Crippled.——The will of the late Oscar Egerton Schmidt gives $5,000 to the New York Orthopedic Dispensary, and also the residue of his estate, the amount of which has not been made public.

NORTH CAROLINA

New Nurses' Home.—The new nurses' home and the woman's pavilion to the new Watts Hospital in Durham are ready for use. The home is reinforced concrete, harmonious in construction with the other Watts Hospital buildings. The whole is the gift of Mr. George W. Watts, who placed the control of the property for all time to come in the hands of the Durham County Medical Society.

Health Officers' Association.—At Charlotte, June 19, the North Carolina Health Officers' Association was formally launched, with the following as officers: president, Dr. Lewis B. McBrayer, Asheville; vice-president, Dr. Lucius N. Glenn, Gastonia; secretary-treasurer, Dr. Watson S. Rankin, Raleigh. The constitution and by-laws adopted limit membership to members of state, county or municipal boards of health or employees of the same.

Appointments.—Governor Kitchen has appointed as trustees for the State Sanatorium for Tuberculosis the following: Dr. Isaac E. Green, Weldon; Mr. J. D. Daws, Elizabeth City, and Mr. William E. Breese, Jr., Brevard.——Dr. Charles T. Nesbitt, Wilmington, recently appointed health officer of that city, will receive a salary of $2,000 annually, with an assistant at a salary of $900 annually, and will be required to give his entire time to the municipal health matters.

PENNSYLVANIA

Rittersville to be Completed.—The new Rittersville Hospital Commission has decided to conform to the governor's suggestions to finish one ward immediately for the reception of patients and to advertise for bids, both for the completion of the institution and for finishing the various wards. The chairman of the new committee has announced that the work and accounts of the body are to be open to the public.

More State Medical Legislation.—Governor Tener has signed the following additional laws, affecting medical matters in Pennsylvania: A commission to study a plan for permanent segregation of the feeble-minded. The object is to prevent procreation of defectives. A vaccination commission. Twenty-five hundred dollars of the people's funds will be wasted in this scheme of antivaccinationists to "learn" what is already public information. The personnel of this commission will decide the extent of harm possible by the schemers, and medical leaders should promptly interview the governor as to representation of the profession. The sum of $10,000 will be applied for registration of births and deaths. In a future legislature the Michigan law of paying every physician for this service (as is done the lawyers and others) should be enacted. A law now becomes effective by which only the state's Bureau of Medical Education and Licensure can license midwives and this includes that infants' eyes, when diseased, can only be treated by licensed physicians. The object, of course, is to prevent unnecessary blindness, criminal abortions and puerperal disease.

Philadelphia

New Committee on Criminal Abortion.—The president of the Philadelphia County Medical Society has named Drs. Richard Norris, Samuel M. Wilson and Henry W. Cattell, chairman, to serve for the current year as a committee on criminal abortion.

New Department.—The University Hospital has added a Pasteur department for the treatment of cases of hydrophobia and it will be accessible to any person thought to have been bitten by an infected animal. Until this was opened the nearest Pasteur institute was in New York. The new department is under the charge of Dr. Alfred Stengel.

More Milk Dumped.—Milk condemned and dumped since June 15, because it was more than 60 degrees in temperature when it reached the receiving station, amounted to 630 quarts. The records of the division of milk inspection show that 210 quarts of the number dumped came in over the Reading Railway lines, which company has failed to provide refrigerator cars.

University Summer School Opens.—The School of Observation of the University of Pennsylvania, under the direction of the psychologic department, opened on Thursday, July 6, with more than 200 children in attendance. A class of twenty backward pupils are to be under direction of a special teacher. Lunches will be provided and special care of diet and proper preparation of food will be undertaken under the supervision of the psychologic clinic.

Babies' Hospital.—Subscriptions amounting to $3,500, the use of the property at Wynnefield, Fairmount Park, belonging to and formerly used by the Children's Hospital, selection of a board of managers and a free ambulance service, donated by the *Evening Telegraph*, have done much toward completion of plans for the hospital for treatment of infants, to be known as "The Babies' Hospital." The hospital is most accessible, as the trolleys from the northeast and downtown sections of the city connect with the park trolleys running direct to the institution and the Pennsylvania railroad station at Wynnefield is at the entrance of the grounds. Subscriptions may be sent to Doctor Sinclair, who is treasurer, or the *North American* will be glad to forward any subscriptions offered through this newspaper.

Tuberculosis Camp on Pier.—A day camp for the treatment of the consumptive poor of the tenement districts will be maintained on the pier at the foot of Bainbridge Street during

the months of July, August and September. A pavilion, 25 feet from the edge of the pier, 30 by 40 feet, to accommodate about thirty cure chairs, will be built with canvas covering and roller side curtains to protect patients from the sun, the side facing the river to be left open. A light lunch, consisting of milk, bread and butter will be served at 10 a. m. and 3 p. m. and a more substantial meal provided at midday. Special attention will be given to children of mothers obliged to become patients at the pier and instructions in cooking will be given by the nurse in attendance. Drs. Neff and Francine have sent out letters to interest the public in this project and the camp will be under the supervision of a corps of physicians.

University Changes.—Following the close of the school term many changes have been made in the medical faculty of the University of Pennsylvania. The list of appointments follows: Dr. G. T. Thomas to be associate of applied anatomy; Dr. G. W. Norris to become assistant professor of medicine in place of the late A. O. J. Kelly; Drs. J. Rex Hobensack, W. E. Quicksall, P. G. Skillern and N. Ginsburg to become assistant demonstrators in anatomy; Dr. Howard A. Sutton, assistant demonstrator of anatomy, to become assistant demonstrator of osteology; Dr. Norman L. Knipe to become assistant instructor in obstetrics; Dr. Oscar H. Plant to become demonstrator in pharmacology; Dr. J. H. Austin, demonstrator in pathology, to become associate in research medicine; Dr. A. B. Eisenbrey, associate in research medicine, to become instructor in surgery; Dr. J. G. Hickey, absent on leave, will resume duty as assistant in physiology; Dr. A. H. Hopkins will become assistant instructor in medicine; Dr. F. C. Knowles will become instructor in gynecology; Dr. R. S. Laveson, absent on leave, will resume duty as instructor in medicine; Dr. W. H. MacKinney will become assistant instructor in genito-urinary diseases; Dr. W. C. Rose will become assistant instructor in physiologic chemistry; Dr. A. I. Ringer will become instructor in physiologic chemistry; Dr. A. H. Wood will succeed Dr. A. R. Allen as lecturer on electrotherapeutics.

Personal.—Dr. James Thorington has been appointed ophthalmic surgeon to the Presbyterian Hospital to fill the position made vacant by the death of Dr. Oliver.——Dr. J. M. Griscom has been appointed chief of the eye dispensary in the service of Dr. Thorington at the Presbyterian Hospital. ——Dr. F. X. Dercum, professor of neurology in Jefferson Medical College, has been elected a corresponding member of the Society of Psychiatry and Neurology of Vienna.——Dr. Warren C. Batroff, director of the clinical laboratory of the Medico-Chirurgical College, has just returned from a three months' tour in Europe.——Dr. Herbert Fox has resigned his position as chief of laboratories of the Pennsylvania Department of Health to assume the directorship of the Pepper Laboratories of the University of Pennsylvania. Dr. Fox was the first chief of the department under the state authorities, having held the position since its inception five years ago. ——Drs. Donnel Hughes and B. R. Marsden sailed for Europe June 28 and Drs. J. C. Boyer, A. A. Bliss and Wendell Reber on July 1.——Dr. Henry Beates, Jr., has resigned from the State Board of Medical Examiners, a position that he has held continuously since the board's creation, seventeen years ago. He has been its president since 1899.——Lafayette College conferred the degree of doctor of laws on Dr. Gwilym G. Davis, professor of orthopedic surgery in the University of Pennsylvania.——Dr. S. Lewis Ziegler sailed for Europe July 4 and Drs. Walter L. Pyle, Max Roedman, Charles F. Taylor and Arthur J. Zimlick on July 8.

TENNESSEE

Personal.—Dr. Jasper Kelsey, Lynnville, is suffering from whooping cough.

Vanderbilt Faculty.—The faculty of the medical department of Vanderbilt University has been declared vacant. An entirely new faculty will be chosen for that department within the next few days.

Society Meetings.—The twentieth annual meeting of the West Tennessee Medical Association was held in Dyersburg, May 10 and 11, and the following officers were elected: president, Dr. J. Augustus Crisler, Memphis; vice-presidents, Drs. Reuben M. Biggs, Palmersville, and Richard W. Griffin, Tiptonville, and secretary, Dr. Isaac A. McSwain, Paris (reelected for the twentieth time). Memphis was selected as the next place of meeting.——At the thirty-fourth semi-annual meeting of the Middle Tennessee Medical Association, held in Lewisburg, May 18 and 19, the following officers were elected: president, Dr. R. J. Perry, Springville; vice president, Dr. Hilliard Wood, and secretary and treasurer, Dr. Kennett L. Jones, Lewisburg. Gallatin was selected as the next place of meeting.——At the annual meeting of the Upper Cumberland Medical Society, held in Monterey, May 24, the following officers were elected: president, Dr. John T. Moore, Algood; vice-presidents, Drs. W. C. Officer, Monterey, and Zeb L. Shipley, Cookeville; secretary, Dr. L. D. J. Ensor, Cookeville, and treasurer, Dr. R. E. Lee Smith, Doyle.——The Lower East Tennessee Medical Society was organized in Athens June 5 and 6. At the preliminary organization Dr. Chalmers Deaderick, Knoxville, was elected temporary secretary, but before the end of the meeting a permanent organization was effected, with the following officers: president, Dr. Gustavus Shipley, Athens; vice-presidents, Drs. James E. Davis, Sweetwater, and Carl T. Speck, Cleveland, and secretary-treasurer, Dr. W. S. Moore, Athens. The next meeting will be held in Cleveland in May, 1912.

VIRGINIA

Personal.—Dr. George W. Wallace, Norfolk, suffered a cerebral hemorrhage, June 25, and is reported to be in a serious condition.

Southwest Virginians Meet.—At the annual meeting of the Southwest Virginia Medical Society, held in Roanoke, June 20-21, the following officers were elected: president, Dr. W. Wamanch Chaffin, Pulaski; vice-presidents, Drs. Edmund C. Watson, Roanoke, William H. Ribble, Jr., Wytheville, and secretary and treasurer, Dr. Alfred B. Greiner, Rural Retreat.

Faculty Changes.—At a meeting of the trustees of the University of College of Medicine, Richmond, June 26, Dr. Charles T. McClintock, formerly of Detroit, was appointed professor of hygiene and placed in charge of the laboratory of physiologic chemistry, and Dr. Edgar C. L. Miller, also of Detroit, was made a member of the laboratory staff. Dr. H. Stuart MacLean resigned as professor of pathology and assistant professor of clinical surgery to give his attention to private practice. Dr. Schuyler B. Moon, Richmond, was elected professor of pathology and Dr. Benjamin M. Roseboro instructor of pediatrics.

WISCONSIN

Antituberculosis Association Incorporated.—Articles of incorporation of the Wisconsin Antituberculosis Association were filed with the secretary of state June 28, without capital stock. The incorporators are W. D. Frost, F. A. Hutchins and W. H. Lighty.

Retreat for Convalescent Tuberculosis Patients.—A Sanatorium for tuberculosis, which is to be entirely non-sectarian and in which convalescent cases shall be treated, is to be opened in Milwaukee this month. The Milwaukee Park Board has temporarily granted the use of the old Kern Property—about 20 acres—on the upper Milwaukee River near the Humboldt Avenue bridge.

Personal.—The touring car of Dr. Francis H. Kelley, Merrill, was totally destroyed as the result of back-firing of the engine July 4.——Dr. Aaron Yaffe, house physician of the Emergency Hospital, has taken up private practice in Milwaukee.——Dr. Frederick D. Bentley, Portage, who has been ill for several days, is reported to be securely convalescent. ——Dr. James F. Malone, West Allis, sustained serious injuries in a collision between his automobile and a railway train recently.

GENERAL NEWS

Alumni Election.—The Harvard Medical Alumni Association, at its recent meeting in Boston, elected as president Dr. John Collins Warren, Boston; secretary, Dr. Robert M. Green, Boston; treasurer, Dr. W. Prescott Prescott, Boston; and councilors, Drs. W. S. Bryant, New York City, and Elisha Flagg and Elliott P. Joslin, Boston.

Academy of Medicine Meeting.—At the annual meeting of the American Academy of Medicine, held in Los Angeles, June 23-26, Dr. Alexander R. Craig, Chicago, was elected president and Dr. Charles McIntire, Easton, Pa., was reelected secretary. The following vice-presidents were elected: Drs. W. Blair Stewart, Atlantic City, N. J., Albert Goldspohn, Chicago, Ray L. Wilbur, Palo Alto, Cal., and Arthur E. Hertzler, Kansas City, Mo.

Dr. Eager Ordered to Sicily.—Owing to the fact that a number of ocean liners have arrived in New York and other American ports along the Atlantic coast from Italy with cholera on board, the United States Government has ordered Surgeon John M. Eager, U. S. P. H. and M.-H. S., quarantine officer at Portland, to go to Palermo, Island of Sicily. Dr. Eager was in Italy for seven years before coming to Portland and has had valuable experience in previous epidemics of cholera.

Insurance Examiners' Meeting.—The eleventh annual meeting of the American Association of Medical Examiners was held at Los Angeles, Cal., June 26-27, under the presidency of Dr. Liston H. Montgomery of Chicago. The following officers were elected: president, Dr. W. E. Grant, Louisville; vice-presidents, Drs. Charles T. Cutting, Boston; Frank W. Foxworthy, Indianapolis; L. Fitzgerald, Newark, N. J., and Wesley W. Beckett, Los Angeles; secretary, Dr. George Strobach, Cincinnati, and treasurer, Dr. Liston H. Montgomery, Chicago.

Personal.—Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service, had conferred on him the honorary degree of LL.D. by Amherst College at its ninetieth annual commencement, June 28.——The University of Michigan, Ann Arbor, has conferred on Dr. William A. Evans, Chicago, the honorary degree of Doctor of Public Health.——The Pacific Coast senators have requested the president to detail Surgeon George W. McCoy, U. S. P. H. and M.-H. Service, to aid the Harvard Research Laboratory, Shanghai, China, in the investigation of diseases prevalent in the Orient and which at times threaten the Pacific Coast.

FOREIGN NEWS

Silver Jubilee of Carlo Reymond.—The fiftieth anniversary of the connection of Carlo Reymond, professor of ophthalmology, with the medical faculty of the University of Turin, was celebrated by his friends and pupils may 18. A large *Festschrift* was presented to him containing his own collected works and an index of the works published by his assistants under his inspiration, numbering 450. Reymond has been on several international committees appointed to study a uniform standard for visual acuity, and means for prevention of blindness, etc., and he has done pioneer work in various lines, particularly in study of refraction defects.

International Congress for Study and Prevention of Infantile Mortality.—The third of these international infant welfare conferences (*gouttes de lait*) is to be held at Berlin, Sept. 11 to 15, 1911. Membership is open to every person, male or female, engaged scientifically or practically in study and prevention of infant mortality. The membership fee is $5, with associate membership of $2.50. The Hamburg-American Line and Norddeutscher Lloyd give special rates, the former allowing 25 per cent. discount between New York and Hamburg. Other steamer and railroad lines allow from 20 to 50 per cent. off the regular rate, according to the circular which will be sent by the secretary-general, Professor Dr. Keller, Mollwitzstrasse, Berlin-Charlottenburg, Germany. The Hamburg-American Line also takes charge of reserving rooms at the Berlin hotels. Address the Reisebureau der Hamburg-Amerika Linie, Unter den Linden 8, Berlin W. The preceding congresses were held in Paris in 1905 and at Brussels in 1907. There are four sections: teaching and instruction, the work of protecting infants, laws and other measures of public administration concerning the protection and guardianship of infants, and statistics. By-laws are to be adopted completing the organization of the International Union for the Protection of Infants. The American committee for the congress will supply the official program and transportation circulars on application to the Executive Secretary, American Association for Study and Prevention of Infant Mortality, 1211 Cathedral Street, Baltimore.

CANADA

Injured by Explosion of Bottle.—Dr. Andrew Macphail, Montreal, editor of the *Canadian Medical Association Journal*, was severely injured by the explosion of a bottle of aerated water, June 18.

New Hospitals.—Mr. G. H. Perley, a member of parliament, has contributed $50,000 toward a tuberculosis hospital for Ottawa.——The board of control has recommended the acceptance of the bid of $33,701 for the reconstruction of the Municipal Small-Pox Hospital.

Provincial Society Meeting.—At the annual meeting of the Manitoba Medical Association, held in Portage la Prairie, June 23, the following officers were elected: president, Dr. Herbert P. H. Galloway, Winnipeg; vice-presidents, Drs. Daniel J. Ross, Selkirk, and John S. Poole, Neepawa; honorary secretary, Dr. Jasper Halpenny, Winnipeg; honorary treasurer, Dr. R. F. Rorke, Winnipeg, and executive committee, Drs. George Camsell, Austin; George Clingen, Virden; Samuel W. Prowse, Winnipeg; Cecil Parr, Morden, and Robert B. Culbertson, Dauphin.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 1, 1911.

The National Insurance Bill

The opposition to the national insurance bill, organized by the British Medical Association, not only of its own members but of the profession generally, has further developed. The association has sent to every doctor a circular inviting him to sign an undertaking that in the event of the bill passing, he will not enter into any agreement for attending the insured, excepting such as shall be satisfactory to the profession and in accordance with the declared policy of the association, and also to enter into such agreement only through a local medical committee, representative of the profession in the district in which he practices. At the same time doctors are asked to submit a memorial to Parliament, asking the government to postpone dealing with medical attendance until such terms shall have been arranged as shall afford reasonable assurance that competent doctors will be induced in the necessary numbers to enter into arrangements for treatment of the insured, which the proper administration of such benefits would require. The answers to these invitations have been very satisfactory: over 19,000 out of the 25,000 doctors in the country affected by the bill, have signed the undertaking and further pledges are coming in daily in great numbers. Funds are also being raised by the profession to meet any emergency which may arise if the bill passes. It is proposed that if the government does not yield to the profession's demands, to establish a fund for the indemnification of doctors who will lose part of their income by refusal to serve under the bill. Many offers of financial help have been received by the British Medical Association, both from doctors whose practices will be affected and doctors whose practices will not. Not only is there to be a central fund, but a number of branches of the association have started district funds, and others are only awaiting suggestions as to procedure from headquarters. The doctors of Fife (one of the Scottish counties) have established a fund, to which already about $25,000 have been promised. Funds have also been opened at Brighton and in several Lancashire towns. At Bury, for instance, the doctors have pledged themselves to pay any levy which may be imposed on them "for the purpose of carrying this matter through." Many branches of the association have passed resolutions declining to serve under the bill, unless their demands are acceded to, and some have even gone so far as to pledge themselves to resign any friendly society appointments which they at present hold and to decline any similar appointment which may be offered, if required to do so by the association. At Cardiff, the largest city in Wales, the South Wales and Monmouthshire branch of the British Medical Association passed the very drastic resolution, that unless the bill is so modified as to obtain the approval of the profession, the association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom. Mr. Lloyd-George, the chancellor of the exchequer, appears at last to have realized the grave mistake he made in introducing this bill without proper consultation with the leaders of the profession. He has just held two private interviews with representatives of the British Medical Association, and it is reported that he has consented to lower the wage limit for medical benefits from $800 to $625 yearly. I very much doubt that this will be accepted by the profession. It may be remembered that in my previous letters to THE JOURNAL, the demand of the profession was for a wage limit of $500 and that many doctors consider this too high and advocated a limit of about $350.

Plague-Infected Rats in London

The health authorities are much exercised by the discovery that at least four out of a dozen rats caught at Wapping, a district of London near the Thames, were infected with plague. Concern is increased by two facts: First, the district is higher up the river than the situations in which plague-infected rats have previously been caught. Second, it is early in the season for an epizootic of rat plague to have attained sufficient proportions to develop. This fact is probably due to a spell of warm weather unprecedented in recent years. Careful search is being made for other infected rats. During the last three years plague-infected rats have been discovered in proximity to the shipping in the port, but no extensive mortality among rats was observed, so that the disease appears to have been limited to a few colonies of

rats. So far, the only wide-spread epizootic of rat plague observed in this country has occurred in an agricultural district of Suffolk near the sea, to which it was supposed to be brought by grain ships entering the river Orwell from infected countries (THE JOURNAL, Nov. 19, 1910, p. 1820). In connection with this epizootic, four fatal cases of pneumonic plague in man occurred. The relative immunity of man from plague in the presence of the epizootic in this country, as compared with oriental countries, is explained by the fact that rats are not tolerated and allowed to live undisturbed in human dwellings, as they are in the East, where religious opinions often prevent their destruction. Moreover, the Indian hut is kept in a dirty litter that affords plenty of cover for rats to nest and the bare feet and legs of its occupants give ample opportunities for biting.

The Advertising of Nostrums by the Religious Press

It is one of the ironies of life that the religious press should be among the worst offenders in the advertising of the fraudulent claims of nostrums. It is extensively used by the exploiters who are astute enough to know that many simple people will think that the admission of an advertisement of a nostrum into a religious paper is some guarantee of its respectability. The subject has come under discussion in connection with the well-known periodicals issued directly under the authority of the Church of Scotland, in which nostrums are advertised, not only in the columns set apart for advertisements but also in those devoted to theological matter. This reprehensible practice was brought before the general assembly of the church by Professor Curtis of Aberdeen who moved to exclude "all advertisements of secret or patent remedies of a medical or quasi-medical description," in order that "the disinterestedness and Christian character of accredited organs of the church might be above suspicion in that respect." The professor said that the crusade of the recognized organs of medical opinion against the indiscriminate puffing of secret remedies was sorely needed. This puffing told severely on the poor, who were not unnaturally impressed in favor of the "remedies" by the "respectable," not to say "unworldly" pose of such an advertising medium as the religious press. Amidst the laughter of the assembly he drew attention to the analyses by the *British Medical Journal* of some of these vaunted "remedies" containing such ordinary ingredients as aloes, ginger and soap, costing ½ cent and sold for fifty times that amount. After discussion, the professor's motion was rejected by a large majority. An argument which seemed to weigh very much with the assembly was that one of the magazines in question was largely supported by, if indeed it did not exist on, such advertising connections. Another argument was that, the church should "let well alone" and leave the business of the periodicals to their managers. Thus the assembly of the national Church of Scotland connives at dishonesty because it pays! If those whose profession is to teach morality tolerate such venality, what can be expected from the lay press?

Postgraduate Extension Study

A new departure in postgraduate teaching has been made by the University of Bristol, which has organized a course of demonstrations of recent research in pathology and bacteriology, at various centers in the southwest of England. The object is to permit doctors who cannot spare the time to journey to the university to see and investigate the practical application of recent discoveries. The first course of six weekly demonstrations was given at a small town, Frome in Somerset. Twenty-two doctors attended from the surrounding district. It was conducted by Dr. Walker Hall, professor of pathology in the University of Bristol. At the close of the course a dinner was given to the lecturer, Dr. Rattray, who presided, eulogized the spirited policy of the university which had placed at the disposal of those living in remote parts so excellent an opportunity of learning at first hand something of the extension of recent knowledge. Prof. Walker Hall had come among them as a scientific missionary and had made several of the difficult problems of the day clear and comprehensible. The idea of this course arose from an address given by Dr. Rattray as president of the Bath and Bristol branch of the British Medical Association, in which he pointed out how much more advantageous it was to see the application of the results of the newer methods of treatment and operation than to read about them. When they are seen, the physician could gauge in what cases he would adopt or recommend their application. On the medical side, the methods to which he referred were vaccine and serum-therapy, blood examinations, the opsonic index, radiology and ionic medication. On the surgical side, he thought it was well that the doctor should see the application of gastroscopy, bronchoscopy, etc., although he did not practice them.

The Cancer Hospital Research Institute

If we are as far as ever from knowing definitely the cause of cancer, it is certainly not for want of money and work devoted to the investigation of this dread disease. A cancer research laboratory has long been maintained by the Middlesex hospital, which has special wards for this disease. The Cancer Research Fund, instituted by the king, has maintained laboratories for many years at which eminent pathologists both of this and other countries have worked for a long time. Now a new research institute has been opened at the Cancer Hospital in the Fulham Road. It is a lofty building of three floors with a spacious basement. It measures 60 feet in width and 40 feet from back to front, and the height of rooms is from 12 to 14 feet. It contains ten separate laboratories, each thoroughly equipped. The usual passages have been abolished, and the laboratories which intercommunicate open also directly on to the staircase around the central lift. The ground floor is devoted principally to administrative purposes and contains a large reference room and library and directors'. laboratory, which is to be devoted chiefly to the study of parasitology in its bacteriologic and cytologic aspects. It well illustrates the care with which the equipment has been carried out. The window stretching along the whole of one side of the room has narrow metal frames so as not to obstruct the light. A system of travelling electric lamps has been installed; the basins are fitted with telescopic plugs. On the first floor are the main research laboratories, which include a laboratory for comparative pathology, equipped with a kymograph and a Cambridge microtome for cutting large sections; a large chemical laboratory with fume cupboards in front of the window, central benches, an open drain, a Kortting vacuum pump, and a hot chamber for drying tissues, which is kept at blood heat; a laboratory for physical measurements, equipped with photometers, thermostats, balances, and a serologic laboratory furnished with large and small centrifuges. The second floor is devoted wholly to experimental work, chiefly to the study of animal tissues, and includes an excellent physiologic laboratory. Above these is the tower, fitted with a laboratory for special light experiments. In the basement is an apartment devoted to electroradiophysics, and a photographic dark room. Another laboratory is occupied with preparatory chemistry, and is fitted with grinding mills, Buchner presses for extracting cell juices, combustion furnaces and an apparatus for producing distilled water. Other features of the basement are the room containing various sterilizers, a large carbon dioxid machine for refrigeration, with a cold store adjoining, a destructor crematorium, a boiler house, an engineer's workshop, and a series of eight vaults devoted to various purposes, such as chemical and spirit storing, and the housing of a large centrifuge of 24 tons' pressure. One of these vaults also forms an underground laboratory for working at an equable temperature.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 30, 1911.

Measures Against Cholera

The government is now taking precautions against the importation of cholera, numerous cases of which have been reported at various points on the Mediterranean coast. The regions at present officially considered to be infected with cholera are Naples, Palermo and Constantinople. At Palermo the first cases were reported from an asylum for the insane several weeks ago. There are now forty a day in that city. In Naples and some neighboring villages which were attacked last year the number of cases is thirty or forty a day. A telegram from Triest reports that a case of cholera was declared on board a transatlantic liner which touched at Naples before arriving at Triest. An American woman fell sick during the voyage and died.

Funeral Honors Paid by the City of Paris to Dr. Aimé Guinard

On June 17, after twelve hours of great agony, Dr. Guinard succumbed to the wounds which he received at the hands of an assassin, as I mentioned in a previous letter.

He was born at Saint-Etienne in 1856 and received his doctor's degree in 1884. He was appointed surgeon of the hospitals of Paris in 1892 and in 1906 succeeded Dr. Lucas-Championnière at the Hôtel-Dieu. In the "Nouveau Traité de Chirurgie," published under the direction of Drs. Le Dentu and

Paul Delbet, he edited the portion devoted to surgical diseases of the abdomen. At the time of his death Dr. Guinard was about to have been appointed an officer of the Legion of Honor.

The municipal council decided that Dr. Guinard's funeral should be held at the expense of the city of Paris since he was killed while in its service. The funeral ceremony, which was very impressive, was held on June 21. The coffin was placed on a catafalque at the top of the stairway of the court of honor of the Hôtel-Dieu, whose colonnades were decorated with silver-embroidered mourning draperies bearing the arms of the deceased. Addresses were made by various officials of the city government and representatives of medical organizations. The coffin was then placed on a bier and was carried to the cathedral of Nôtre-Dame, where the religious ceremony was held. The body will finally be taken to Saint-Etienne, the birthplace of Dr. Guinard.

The Syndicat des médecins de la Seine, after sending its condolences to Mme. Guinard, decided to open a subscription for the erection of a monument to the dead physician.

The Number of Medical Students in the French Medical Schools

The entire number of medical students in the French *facultés* and *écoles* of medicine was on Jan. 15, 1911, about 8,799, which is an increase of 164 over the corresponding figures of the year 1910. This increase consists almost entirely of foreign students, who have increased by 146 while there are only eighteen more French students.

As in the previous years it is from Russia, which sends 833 students, that two-thirds of the foreign students come; then comes Turkey with eighty-nine, Bulgaria with sixty-eight, Roumania with fifty-five and Greece with twenty-six. The United States was represented by seven students, Central America by thirteen, South America by twenty, Brazil by eight, the Antilles by eleven and Canada by four.

Out of the total of 8,779, 7,652 attended the *facultés de médecine*, 557 the *écoles de plein exercise de médecine* (Marseilles, Nantes and Rennes) and 570 the preparatory medical schools. Of the *facultés*, that of Paris has 4,101; Bordeaux, 732; Lille, 279; Lyons, 968; Montpellier, 659; Nancy, 340; Toulouse, 412; Algiers, 161.

The following are the number of the physicians with state diplomas, which alone give the right to practice in France, who were graduated in 1910 in each of the *facultés:*

Paris	450
Bordeaux	70
Lille	44
Lyon	109
Montpellier	120
Nancy	32
Toulouse	55
Algiers	3

To the total of 883 should be added the thirty-two state diplomas delivered by the Faculté catholique et française of Beirut, Syria.

The Intravenous Injection of Sodium Bicarbonate in Diabetes

In a series of communications recently made to the Société médicale des hôpitaux de Paris, Dr. Marcel Labbé, Professor Lépine of Lyons and others have called attention to the treatment of acidosis or diabetic acetonemia by intravenous injections of sodium bicarbonate, a mode of administration much superior to the ingestion of this drug even in very large doses. Up to the present intravenous injections of sodium bicarbonate have been employed exclusively in coma or in the period directly premonitory of coma, in vertigo, somnolence, etc. In the session of June 16 of the Société médicale des hôpitaux, Dr. Sicard, *agrégé* professor of the Faculté de médecine de Paris, reported results which he obtained with injections used in non-comatose states to combat certain diabetic symptoms which resisted the classic dietetic and medicinal treatment. In three cases, one of obstinate pruritus, another of sciatic pains and a third of light optic neuritis, he obtained marked remissions. Instead of using weak or nearly isotonic solutions of sodium bicarbonate (from 2 to 3 per cent.), Dr. Sicard used much more concentrated solutions, from 8 to 9 per cent., sterilized and given in injections of from 100 to 250 c.c. which represents about 20 gm. of sodium bicarbonate. The injection is given into a vein of the arm according to the ordinary method. It is absolutely necessary to penetrate directly into the interior of the blood-vessel, for the solution is caustic and, if introduced into the cellular tissue, would produce inflammatory reaction. The injection is made in about five to ten minutes without producing any swelling. It may be repeated several times at intervals of a few days without the least danger. It is preferable to the injection of too large quantities of liquid when in the course of coma or precomatose symptoms it is necessary to act quickly without raising the arterial tension too much.

Barium Sulphate Instead of Bismuth in Radioscopy

On June 16, before the Société médicale des hôpitaux de Paris, Drs. Bensaude and Ronneaux proposed to substitute barium sulphate for bismuth for radioscopic examination of the digestive tract. Barium sulphate is not toxic in large doses if it is absolutely pure. It presents, moreover, sufficient opacity to give clear images on the radiograph screen. It is readily taken by patients and may easily be mixed into a liquid which is maintained in suspension. It has, moreover, the great advantage of being a sixth as expensive as bismuth.

Death of Dr. Claudot

Dr. Maurice Claudot, *médecin inspecteur général du cadre de réserve*, has just died at the age of 66.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 22, 1911.

Personal

Professor Trendelenburg of Freiburg, has received a call to Innsbruck as regular professor of physiology.

Professor von Michel, the director of the Berlin eye clinic, and Professor von Esmarch, director of the hygienic institute in Göttingen, a son of the noted surgeon, both retire at the end of the semester on account of their health.

Prof. G. Krönig, who has been since 1894 director of the second internal medicine division of the municipal hospital at Friedrichshain, in Berlin, died June 15, at the age of 55, of pneumonia. He was a pupil of Frerichs and of Gerhardt and had distinguished himself by his valuable works on lumbar puncture and on percussion of the lung apices. In addition he had made a number of practical improvements in the technic of microscopic and clinical examinations. For some years he suffered from an insufficiency of the aortic valves.

Professor Ewald has been elected as a foreign member of the Norwegian Medical Society at Christiania.

Berlin Medical Orchestral Society

Following the example of Vienna a medical musical society has been founded in Berlin. We possess a number of physicians who display more or less marked musical talent. Among them is Professor His, the director of the first medical clinic. The number of members of the society so far amounts to sixty.

Infant Mortality and the Death-Rate

The infant mortality of Germany and of Prussia is frequently placed as unusually high, and proportionally unfavorable conclusions as to the economic status of the population or as to insufficient hygiene are drawn. In truth such conclusions are a little hasty; the birth-rate must be taken into consideration with the high infant mortality. Where women are overtaxed by frequent child-bearing, they can give less care to their children than in cases in which the number of children is small. If the birth-rate and infant mortality are compared in the various nations together with the death-rate with and without the death-rate of infants, the latest figures give the following:

		In Proportion to 1.000 Population			
		Deaths Under One Year, per 100 Born Living.	Number Born Living.	Deaths, Excluding Still Births.	Deaths, Excluding Infants.
German Empire	1908	17.8	32.0	18.0	12.3
Austria	1906	20.2	35.0	22.6	15.5
Hungary	1908	19.9	36.3	24.8	17.4
Russia	1901	27.2	47.9	32.1	19.1
Italy	1907	15.6	31.5	20.7	15.8
Spain	1904	17.3	34.4	25.8	19.8
France	1906	14.3	20.5	19.9	16.9
England and Wales	1908	12.1	26.5	14.7	11.5
Netherlands	1908	12.5	29.7	15.0	11.2
Belgium	1907	13.2	25.3	15.8	12.5
Sweden	1907	7.7	25.5	14.6	12.6
Denmark	1907	10.8	28.3	14.2	11.2
Norway	1907	6.7	25.9	14.0	12.2

It will be seen at once that Germany has in no sense an unusual position in respect to the height of its infant mortality but Austria-Hungary and Russia present a more unfav-

orable and Spain nearly the same infant mortality. A number of other states appear at first sight to have more favorable conditions, but a special consideration of these is necessary. Italy has a smaller infant mortality with nearly the same birth-rate, but the death-rate is one-sixth and the number of deaths excluding those of infants is a fourth higher. France has a very low birth-rate and a considerably higher mortality, which is explained in part, by the large ratio of the aged. In England attention must be called to the fact that the reports of the deaths of infants are incomplete on account of the six weeks' delay allowed. The Netherlands and the Scandinavian countries have a not inconsiderably smaller infant mortality but the general mortality after exclusion of infants is only a little smaller and even Prussia in some provinces, such as Hanover, Westphalia, Hesse-Nassau and Schleswig-Holstein, shows an infant mortality of from 10 to 15 per 100 born living. Thus the infant mortality was as follows:

	1909	1908
Schleswig-Holstein	13.2	14.9
Hanover	12.1	13.1
Westphalia	13.0	14.4
Hesse-Nassau	10.3	10.8

Finally it should be remarked that the infant mortality in Prussia has undergone a material reduction in the course of time as shown by the following table:

INFANT MORTALITY IN PRUSSIA FROM 1875-1909

Year	Deaths in the First Year, per Hundred Born Living	Year	Deaths in the First Year, per Hundred Born Living
1875-1880.....	20.6	1903.....	19.4
1881-1885.....	20.7	1904.....	18.5
1886-1890.....	20.8	1905.....	19.8
1891-1895.....	20.5	1906.....	17.7
1896-1900.....	20.1	1907.....	16.8
1901.....	20.0	1908.....	17.3
1902.....	17.2	1909.....	16.4

Examination of Cattle Imported into Germany

In my letter dated May 6, I reported that the authorities (the *Bundesrat*) had determined no longer to demand a tuberculin test of cattle imported from Denmark, Sweden and Norway. Understanding that the text of this resolution would be of interest to the readers of THE JOURNAL, I take the opportunity of copying so much of it as is of general importance.

Section 1. All cattle from Denmark, Sweden and Norway which are imported into a marine quarantine station shall be marked with ear marks, bearing consecutive numbers. On these numbers the quarantine station shall be indicated by the addition of initial letters.

Section 2. All the before-named cattle shall be examined by the veterinary surgeon charged with their inspection, in addition to the examination for other contagious diseases, in order to determine whether they are infected with tuberculosis.

Section 3. The examination for tuberculosis shall be made by clinical and if necessary bacteriologic examination according to instructions prepared by the imperial chancellor, in which an estimate of the fees to be paid by the owner for the examination shall be stated. If the bacteriologic examination requires a longer time than the ordinary period of quarantine, the suspected animals must be kept in quarantine at the expense of the owner until the termination of the investigation, provided that the owner does not prefer to export them again.

Section 4. Cattle in which the presence of tuberculosis or a suspicion of this disease is established by the results of the examination, in the sense of the instructions issued by the imperial chancellor, must be deported. Previously they shall be marked or branded as determined by the imperial chancellor.

Section 5. All the other cattle are to be excluded from free commerce and may only be accepted for slaughter at the latest within four days—reckoned from the admission to the slaughter-house—in public slaughter-houses designated for this purpose under the same conditions as the Austrian and Hungarian cattle and also under the condition that all the regulations for the inspection of meat in respect to tuberculosis, which are enforced in the interior, shall be strictly obeyed and that meat which is found to be distinctly unfit for use or materially impaired in its nutritive value and palatability, shall at the option of the owner either be treated as condemned or after proper labeling shall be exported again. The style of the label shall be determined by the imperial chancellor.

Section 6. These regulations shall be in force July 1, 1911.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, June 20, 1911.

The Codex Alimentarius Austriacus

A few days ago the first volume of the "Codex Alimentarius Austriacus" was published, and thus a very useful and instructive work has been partly completed. Its merits are due in a high degree to the efforts of medical men, who, for many years, have pointed out the necessity of such a weapon against the adulteration of articles of food. This "pure food" codex, so to say, is the result of cooperation by the departments of agriculture and commerce, with associations of merchants and scientific chemists, and with the high board of health, as well as with private individuals, whose opinions were asked and then embodied in the rules laid down in the codex. The contents of this volume are arranged very conveniently, and the work will, no doubt, serve as a model for other codices, the Austrian being the first of its kind. Each chapter, dealing with a special article of food, contains the laws pertaining to the subject under consideration and afterwards the following subdivisions: Description of the article, method of obtaining the necessary sample for examination, examination of the article, the consideration of the result thus obtained, regulation of the commercial use and sale, and the use of the goods found unfit or wanting. The object of these volumes is, among others, to enable the producers and dealers to know the leading principles of the "pure food" requirements, as stipulated by the government. Furthermore, everybody can thus ascertain the precautions necessary when dealing with food stuffs, and the rules laid down therein are guides for the institutes and market police controlling the sale of such articles. The judge too, will find in it a useful guide in all lawsuits arising out of this subject.

The articles dealt with in the published first volume are: wheat and corn, leguminous vegetables, bread and baking products, salt (NaCl), fresh vegetables, mushrooms, fruits, condiments, tea, coffee and its substitutes, cocoa, chocolate, sugar and candy, sweets and sweetmeats, including pastry, beer, wine in all its various kinds, and paraffin. The other articles will be dealt with in two more volumes to be published within this year.

Consultations by Telephone

In the course of a recent lawsuit brought by a doctor against a wealthy patient, the practitioner had claimed also a certain amount for consultations and medical advice given by him over the telephone. The claim was disallowed by the learned judge because the antiquated *Aerzteordnung* (regulation of medical practice), at present in force, contains nothing of that kind. No attention was paid to the fact that, at the time of the compilation of the above-mentioned regulations the telephone was an unknown thing. The incident was taken up by the medical council of Vienna, and in a resolution the practitioners were advised to inform their patients that telephone consultations were in the future to be charged for. Nevertheless, the council advised its members to abstain from treatment at a distance, or without seeing the patient.

The Decreasing Birth-Rate

In this country too, a marked and constant decrease in the birth-rate has been observed during two decades, and various suggestions were thrown out, both as to the reasons for it and the best means for combating the unsatisfactory conditions threatening from it. In 1897 the birth-rate was 38.2 per 1,000 inhabitants; in 1906 it had fallen to 34.1. Nevertheless, the population had increased and is still increasing, owing to the surplus of births over deaths. This is due in a high degree to the improvement in sanitation, with consequent decrease of mortality and morbidity. Among other things, the number of stillborn children had fallen during the above-mentioned ten years from 1.1 per cent. to 1 per cent., and the number of illegitimate children from 144 to 123 per 1,000 births. The most marked decrease of births is noted in the upper classes of the population. The so-called nobility is well known here for its sterility. Among the upper middle classes, the one-child or two-children family is the rule; and among the lower classes, the industrial worker, in spite of marrying early, has fewer children alive than the rural couple who marry late. One of the most active reasons for the lowered birth-rate has been found in the enormous emigration of the young, vigorous, hard-working peasants and laborers, who generally go across the ocean, and of the Jewish part of the population who follow the same track. Another very influential factor is the voluntary prevention of conception and artificial interruption of pregnancy, against which legislation is nearly powerless in spite of all endeavors.

Marriages

WILLIAM BRANCH YOUNG, M.D., Falling Spring, W. Va., to Miss Mabel Russell Beckner of Sweet Springs, W. Va., June 28.

WILLIAM LLOYD FRIEDMAN, M.D., Oakland, Cal., to Mrs. Mamie Fletter of Alameda, Cal., at San Jose, Cal., June 29.

ROBERT FRAZIER ASHWORTH, M.D., Birmingham, Ala., to Miss Capitala Vivian Williams of Chattanooga, Tenn., June 28.

FREDERICK B. MATHER, M.D., to Miss Florence K. Skillings, both of Spokane, Wash., at Coeur d'Alene, Idaho, June 6.

WILLIAM WINTON SNEAD, M.D., Warren, Ky., to Miss Dona Price of Barbourville, Ky., at Corbin, Ky., June 27.

FLORENCE BELLE WYANT, M.D., Sharon, Pa., to John Matta of South Sharon, in Cumberland, Md., recently.

CLAUDE WEBSTER BANKES, M.D., Reading, Pa., to Miss Jeanette D. Melot of Fleetwood, Pa., recently.

JONAS RHODES LONGLEY, M.D., Fond du Lac, Wis., to Miss Juanita Bell Murphy of Marengo, Ia., June 27.

JOEL CUTCHINS RAWLS, Crystal River, Fla., to Miss Ella Shipman Guthrie at Lynchburg, Va., June 28.

GUSTAV A. HINNEN, M.D., Mt. Auburn, Cincinnati, to Miss Martha Sprenger of New York City, June 30.

DAVID JOSEPH JOHNSON, M.D., Roxbury, Boston, to Miss Anna J. O'Neil of New York City, June 28.

ROBERT ROCHESTER HANSEN, M.D., Marshalltown, Iowa, to Miss Harriet Peterson of Chicago, June 28.

ARTHUR JONES FLETCHER, M.D., Homer, Ill., to Miss Rose Vorhees Crawford of Danville, Ill., June 17.

JOHN CHARLES BENSON, M.D., Flint, Mich., to Miss Katharine Eleanor Brennan of Detroit, June 28.

PAUL H. DERNEHL, M.D., Milwaukee, to Miss Edith Ziegler of Baltimore, at Hayward, Wis., July 3.

CLYDE W. HODGES, M.D., Hamilton, Ohio, to Miss Jessie Noland of Crawfordsville, Ind., June 28.

ALFRED W. TRAVERSE, M.D., to Miss Anna Talaska, both of Milwaukee, at St. Joseph, Mich., recently.

WILLIAM H. HOWARD, M.D., Hampton, Va., to Miss Annie L. Wright at Bowling Green, Va., June 28.

EUGENE WAHL, M.D., to Mrs. Marie Wayne, both of Edwardsville, Ill., in St. Louis, June 1.

CARLOS W. SHOTWELL, M.D., Detroit, Mich., to Miss Irene Melinda Edy of London, Ont., June 27.

EMANUEL THEODORE URBAN, M.D., to Miss Adeline Elizabeth MacKenzie, both of St. Louis, June 7.

ARTHUR L. PEACOCK, M.D., Lynn, Ark., to Miss Maggie McCleod of Smithville, Ark., June 25.

CHARLES ALVIN PORTZ, M.D., Baltic, Ohio, to Miss Florence M. Bidwell of Canton, Ohio, June 14.

HARRY W. UFFELMAN, M.D., Windsor, Pa., to Miss Mary Baughman at Red Lion, Pa., June 28.

CARLTON N. ETCHISON, M.D., to Miss Rachel Dave Young, both of Gaithersburg, Md., June 15.

ARTHUR J. WAGERS, M.D., St. Louis, to Miss Marguerite M. Devin of Buffalo, N. Y., June 21.

CHARLES SUMNER NEER, M.D., Vinita, Okla., to Miss Pearl Brooks of Springfield, Mo., June 28.

CHARLES NORTON HENSEL, M.D., to Miss Rae Lillian Goodnow, both of Minneapolis, June 21.

DEAN ELY GODWIN, M.D., to Miss Myrtle Elizabeth White, both of Coldwater, Mich., June 28.

WILLIAM L. HARTSELL, M.D., Draughon, Ark., to Miss Delia Plunkett of Rogers, Ark., June 19.

ARTHUR E. HOAG, M.D., Carrollton, Ill., to Miss Bertha N. Moorshead of St. Louis, June 28.

FRANCIS J. STIRN, M.D., Cudahy, Wis., to Miss Clara Lochemes of Milwaukee, June 28.

HENRY GRABER, M.D., Royersford, Pa., to Miss Arvilla Whiteman of Philadelphia, JULE 10.

WILLIAM LEO EGLOFF, M.D., Elkhart, Wis., to Miss Luella Heyer of Milwaukee, June 21.

JOSEPH E. HIGGINS, M.D., to Miss Helen Jenneman, both of Grand Island, Neb., June 28.

G. EDMUND MAUK, M.D., to Miss Ethel Virginia Swift, both of Woodland, Pa., June 21.

ROYAL LACY EDDINGTON, M.D., to Miss E. Murtell Mead, both of Fairfield, Ill., June 15.

CURTIS THOMPSON, M.D., to Miss Pearl McCarthy, both of Carbondale, Ill., June 23.

FRANKLIN P. RUSSELL, M.D., to Mrs. Elma Green, both of Alliance, Ohio, June 21.

J. HENRY ALLEN, M.D., Chicago, to Miss Pearl McCain of Rockfield, Ind., June 14.

OMAR A. KELL, M.D., Salem, Ill., to Miss Cecil Maxey of Centralia, Ill., June 22.

OLAF J. HAGEN, M.D., to Miss Mozelle Weld, both of Moorhead, Minn., June 24.

ROLLA HARRISON HENRY, M.D., to Miss Freda Eberlein, both of St. Louis, June 29.

LEE RYAN, M.D., Downey, Cal., to Miss Josephine Lane of Los Angeles, June 12.

CARL WILLIAMSON, M.D., Chicago, to Miss Marie Tate of Homer, Ill., June 16.

PIERRE J. TISCHART, M.D., to Miss Rose Marie Binette, both of Chicago, June 27.

DONALD BUIE GARSTANG, M.D., to Miss Mary Ladd, both of St. Louis, June 14.

PAUL VINYARD, M.D., to Miss Edna Waldo Linens, both of St. Louis, June 26.

HELIODOR SCHILLER, M.D., to Miss Corinne Hart, both of Chicago, June 29.

ALMER M. AANES, M.D., to Miss Nora Nelson, both of Boyd, Minn., June 29.

EDWARD C. LOEW, M.D., to Miss Irene Freund, both of St. Louis, June 14.

Deaths

J. Elvin Courtney, M.D. Medical College of Virginia, Richmond, 1883; a member of the American Medical Association; formerly first assistant physician at the Hudson River State Hospital, Poughkeepsie, and a member of the staff of that institution for eleven years, and a practitioner of Denver, where he established the Mount Airy Sanitarium for Nervous and Mental Diseases; lecturer on neurology in the medical department of Denver University, and alienist and neurologist to St. Anthony's Hospital; died at his home in Denver, June 23, from pleurisy.

William T. Maupin, M.D. Jefferson Medical College, 1864; a member and once vice-president of the Medical Society of the State of California; for several years president of the Fresno (Cal.) Medical Society and a charter member of the San Joaquin District Medical Association; once health officer of Fresno; surgeon in the Confederate Service during the Civil War; for several years division surgeon for the Southern Pacific and a member of the Association of Railway Surgeons of the Pacific Coast; died at his home in Fresno, June 19, aged 72.

John Quincy Adams McCollester, M.D. Jefferson Medical College, 1856; a member of the Massachusetts Medical Society; surgeon of the Fifty-Third Massachusetts Volunteer Infantry during the Civil War; for several years local pension examining surgeon and a member of the staff of the Boston Quarantine Hospital; who was given the honorary degree of LL.D. by Norwich (Vt.) University in 1900; for forty-seven years a justice of the peace; died at his home in Waltham, June 23, aged 80.

Weston H. Rice, M.D. University of Vermont, Burlington, 1905; a member of the American Medical Association and local surgeon at Oakland, Cal., for the Southern Pacific Railroad; died in the Receiving Hospital, Oakland, June 27, from the effects of a collision between his automobile and an electric train a few moments before, aged 37.

Edward Peabody Geary, M.D. Harvard Medical School, 1874; a member of the Massachusetts Medical Society; for several years president of the Norfolk District Medical Society and vice-president of the Boston City Hospital Club, and alderman of Jamaica Plain in 1900 and 1901; died in Phillipston, Mass., June 21, aged 64.

Greer M. Nickell, M.D. College of Physicians and Surgeons, Baltimore, 1881; proprietor of the Millboro Sanitarium, Millboro, Va.; died at his home in Millboro, June 27, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, while suffering from ill health, aged 60.

Charles A. Bleiler, M.D. Jefferson Medical College, 1885; a member of the Medical Society of the State of Pennsylvania; at one time coroner of Schuylkill County; a prominent practitioner and citizen of Frackville and for two terms a school director; died at his home, June 28, from nephritis, aged 51.

John Brevard Alexander, M.D. Medical College of the State of South Carolina, 1855; one of the oldest practitioners of Mecklenburg County, N. C.; surgeon in the Confederate service during the Civil War; in 1896 a member of the state senate; died at his home in Charlotte, June 24, from paralysis, aged 77.

Julian William Baird, M.D. Harvard Medical School, 1890; a member of the American Medical Association; professor of analytic and organic chemistry of the Massachusetts College of Pharmacy, Boston, and dean of that institution since 1897; died at his home in Boston, June 26, aged 52.

John Franklin Whitmyer, M.D. College of Physicians and Surgeons, New York City, 1890; chief medical inspector of the Health Department of New York City, for twenty-two years an official of the department; died at his home, June 23, from heart disease, aged 47.

Robert W. Taylor, M.D. Jefferson Medical College, 1864; since 1881 a practitioner of Louisville, Ky., and prominent in Sunday school and mission work; died suddenly at his home in Knoxville, Pa., June 30, from injuries received in an automobile accident.

William Dandridge Sale, M.D. Medical College of Virginia, Richmond, 1864; a member of the Medical Society of Virginia and surgeon in the Confederate service during the Civil War; died at his home in Loretto, June 23, from heart disease, aged 72.

Thomas S. Mitchell, M.D. Atlanta (Ga.) Medical College, 1866; assistant surgeon in the Confederate service during the Civil War; formerly surgeon of the Central Railway of Georgia; died at his home in Pensacola, Fla., June 20, aged 75.

Stephen Dumas Colbert, M.D. Southern Medical College, Atlanta; for several years chief surgeon of the Houston and Texas Central Railway Company at Copefield, Tex.; died at his home in Griffin, Ga., June 24, from gastritis, aged 42.

William A. Blount, M.D. New York University, New York City, 1860; a member of the Medical Society of the State of North Carolina; died at his home in Washington, N. C., June 22, from heart disease, aged 72.

John W. Straughn, M.D. Medical College of Indiana, Indianapolis, 1881; for fifty-five years a practitioner of Parkersburg, Ind.; died at his home in Waveland, Ind., June 20, from cerebral hemorrhage, aged 79.

John M. Phipps, M.D. Medical College of Virginia, Richmond, 1887; a member of the Medical Society of Virginia; died at his home in Rural Retreat, June 17, from cerebral hemorrhage, aged 45.

William R. Cosgrove, M.D. College of Physicians and Surgeons, Baltimore, 1880; of Derry, Pa.; died in Mercy Hospital, Pittsburg, June 22, from disease of the liver, aged 54.

T. N. Berlin (license, Washington); for more than forty years a practitioner of Minnesota and Washington; died at his home in Kent, Wash., June 16, aged 88.

Benjamin L. Ryder (registration, Franklin County, Pa., 1881); for forty years a practitioner of medicine; died at his home in Chambersburg, June 22, aged 79.

Frank Leroy McGee, M.D. Kentucky School of Medicine, Louisville, 1893; died at his home in Charleston, W. Va., June 27, from cerebral hemorrhage, aged 56.

John T. Gray, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; died at his home in Griffin, Ga., June 27 from cerebral hemorrhage, aged 60.

John A. Southworth, M.D. University of Nashville (Tenn.) 1869; formerly of Corsicana, Texas; died at his home in Texas City, Texas, June 15, aged 63.

George L. Jackson, M.D. Jefferson Medical College, 1884; of Miami, Tex.; died in a hospital at Amarillo, Tex., June 22, from pellagra, aged 47.

Abner C. Matthews, M.D. University of Vermont, Burlington, 1894; was found dead from heart disease in his office in Earlville, N. Y., June 27.

Samuel Frisbie, M.D. University of Alabama, Mobile, 1861; formerly of Bladen Springs, Ala.; died at his home in Jackson, Ala., June 20.

J. M. Kerr, M.D. Starling Medical College, Columbus, O., 1894; died at his home in Columbus, June 26, from cancer, aged 47.

Merritt Matteson, M.D. Cleveland University of Medicine and Surgery, 1861; died at his home at Morris, N. Y., June 18, aged 75.

William White (license W. Va., years of practice); died at his home in Joy, W. Va., June 23, from senile debility, aged 82.

Miscellany

Disinfection in the Middle Ages.—During the long period of the Middle Ages the alchemists did little to advance our knowledge of this subject; they collected a few facts, and described, with more or less accuracy, the properties of some of the more important chemical compounds; but one may search in vain for a correct account of any example of preventive medicine. Notwithstanding the ravages of the cholera, the plague, and other epidemics, as well as the frequency of leprosy, the idea of contagion was only imperfectly understood, and the common people were far less cleanly in their habits than the Jews, for example, or heathen nations, who. . . mingled primitive sanitary precautions with their religious services. Perhaps one of the earliest papers of any importance which we have is a "Mémoire sur les substances septiques et antiseptiques," written by Pringle in the middle of the eighteenth century. In this memoir some forty-eight experiments are described, in which the author took pieces of fresh meat and placed them in contact with various amounts of substances which he believed to have an antiseptic action. Among the substances tried we find common salt, sal ammoniac, acetates of ammonia and potash, niter, borax, camphor, aloes and succinic acid. These experiments, which were conducted in a very systematic manner, are even now not without some value. By taking as a standard the antiseptic action of 60 grains of salt on 2 grains of meat in 2 ounces of water, he was able to show that the other substances enumerated above had a greater antiseptic power than this standard, and thus succeeded in arriving at their relative antiseptic value. Even the pioneers of modern chemistry at the beginning of the present century, did little toward promoting our knowledge of disinfectants, and it was not until the biologists showed that decay was due to the action of living organisms which float in the air, that fresh attention was directed to the subject. Francesco Redi, by protecting meat from flies with wire gauze, showed that the maggots which infect decaying flesh were produced from the eggs of the flies. Subsequently the formation of molds on the surface of jams, or other organic substances, was similarly shown to be determined by microorganisms floating in the air. It was further noticed that filtration of air through cotton wool was effectual, not only in removing the dust, but also in preventing the ingress of microorganisms. The gradual accumulation of such facts as these by the biologists led the chemists to realize that the removal of the odor was not, after all, the only work necessary, and thus fumigation with nitrous acid, hydrochloric acid, chlorin and other pungent bodies which had been recommended, fell gradually into disfavor.—Dreyfus in *Jour. Am. Pub. Health Assn.*

Poisoning by "Purgen" (Phenolphthalein).—It is unfortunate that the disadvantages of new remedies are apt to remain unknown for a considerable length of time after their introduction. The introduction of phenolphthalein under the form of a proprietary was accompanied by a singular reversal of the usual caution concerning dosage. Ordinarily it is supposed that a remedy, especially one producing irritative effects on the intestines, will be better borne by the robust individual who is not obliged to keep his bed, than by the person reduced and bedridden by serious disease. In the case of "purgen" however, this principle of dosage was reversed and three sorts

of tablets were put out, one for children, one for adults and one for those who were confined to bed. The last tablet was the strongest of the three, and patients were advised in case of need to take even three of these stronger tablets. This plan of giving the stronger dose to the weaker patient was the occasion of a case of poisoning by this nostrum which, as has long been known, contains as its active constituent, phenolphthalein, or as it appears in the somewhat recondite and complex nomenclature of the manufacturer "1,8, dihydroxyphthalophenon." This case is reported by Dr. Erich Zabel of Rostock in the *Deutsche medizinische Wochenschrift*, April 20, 1911. For a man of 67, convalescent from erysipelas, one of the tablets for bedridden patients was prescribed. The patient took three instead of one and, as his bowels did not move, took in addition two of the ordinary adult tablets. These had no effect on the bowel movements. A sudden check to convalescence with a distinct aggravation of the general condition took place. Very unpleasant and severe abdominal pain began accompanied by occasional vomiting; the pulse became rapid, small and soft, the extremities pale; fainting fits occurred with a subjective feeling of weakness; objectively there was marked prostration which suggested a possible intestinal hemorrhage. After about a week the action of the bowels, which had been interrupted, began again with the evacuation of very peculiar stools. On the tenth day after taking the "purgen," Dr. Zabel was called and found the patient very much prostrated. He had recently passed a large amount of fluid from the bowels, which closely resembled bloody urine. These bloody-appearing stools were passed for several days, the last being on the nineteenth day after taking the "purgen." The patient then began to improve and rapidly recovered. Examination of the stool passed showed the absence of blood-coloring matter. The material which passed the bowel was examined by Professor Kobert, who reported that it was a material similar to a decomposition product of the chromogen principle of the purgatives belonging to the oxymethylanthraquinone group. This unusual action of the remedy is to be attributed to two factors: 1. The large dose, which, however, was not much larger than that recommended by the proprietors of "purgen." 2. The long stay of the remedy in the intestine, during which it would seem that it must have undergone some decomposition which increased its irritating qualities. The lesson drawn by Zabel from this incident is the necessity of caution in the application of remedies whose actions are not well understood. He suggests that there is danger in neglecting the old and well-tried remedies for modern nostrums with suggestive names and attractive appearance. See also Heubner's comment, p. 257, this issue.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THACHER'S WORM SYRUP

A Dangerous Santonin Mixture

Dr. Thacher's Worm Syrup is put on the market by the Thacher Medicine Co., Chattanooga, Tenn., under the following claims:

"Dr. Thacher's Worm Syrup is scientifically prepared from materials which are known to have a sure and safe effect on the child and to leave it in a healthy condition."

It is said to "act on the liver and bowels" and to "relieve all pain." The instructions that appear on the label direct "no oil or physic to be taken after the dose." Dr. M. A. Watkins of Woodward, Ala., reports a case of poisoning in a 5-year-old child from the use of this nostrum. The child, a girl, having complained of pain in the abdomen was given a dose of castor oil. The following day, after an indiscretion in diet with a return of the pain, another dose of oil was given and at the same time a teaspoonful dose of Dr. Thacher's Worm Syrup. On the third day three more teaspoonful doses of the Worm Syrup were given at three-hour intervals. By this time, the child was droway and listless, and unable to urinate. On the morning of the fourth day, the child became unconscious and the physician was summoned. The following clinical picture was found:

"Patient was in profound coma; pupil and knee reflexes were abolished; pupils were slightly dilated, but even. Mouth was dry and parched; tongue furrowed and dry; breath fetid and slightly sweet; the patient was restless and vomited frequently. Respiration 24; rectal temperature 101.6 F.; pulse 176 and thready. An examination of the blood gave the following results:

Leukocytes	15,000
Plasmodium	negative
Agglutination test, typhoid	positive
Blood-pressure	125

The patient was catheterized and 6 drams of urine obtained. Examination showed large quantities of sugar and albumin, casts and epithelial cells."

A diagnosis of santonin poisoning was made and treatment immediately instituted. While a slight temporary improvement was noted, the patient gradually weakened and died six days after the ingestion of the first dose of the "worm syrup."

Unbroken packages of Thacher's Worm Syrup were obtained, and examined in the Association's laboratory to determine whether there was santonin in the product, and if so, in what quantity. The preparation comes in bottles containing a little more than 1½ fluid ounce (47 c.c.). It is a thick, dark-brown syrup having the odor of cloves and anise and a sweet, anise-like flavor. The preparation contains a noticeable amount of small, grayish crystals in suspension. These crystals were found by qualitative tests to be nearly pure santonin. Alkaloids were absent. The quantitative examination indicated that the preparation contains about 1.14 gm. (18 grains) of santonin in each 100 c.c. (3½ fluid ounces), the greater proportion of this drug being in suspension. This means that each teaspoonful dose of the nostrum contains about ⅖ of a grain of santonin.

A number of cases of fatal poisoning are reported in the literature on santonin. In reporting a case of total blindness produced by santonin in a 5-year-old girl, Baxter has recently stated that no children under 2 years of age should ever be given santonin and, that even when given to older children, serious complications are liable to be produced. This is especially the case when it is given with castor oil, which increases its solubility.

It is evident, therefore, that a nostrum such as Thacher's Worm Syrup, which contains santonin in poisonous quantities, has no place among domestic remedies. The manufacturers of this preparation will probably protest that in the case of Dr. Watkin's patient the parents deliberately went counter to the instructions by administering castor oil in conjunction with the "worm syrup." Such an excuse is not a valid one because discrimination cannot be expected from the public in the self-administration of "patent medicines."

There is nothing about the package or on the label to denote that Thacher's Worm Syrup contains a dangerous poison. On the contrary the nostrum is said to have a "safe effect on the child and to leave it in a healthy condition." Furthermore it is suggested that it can be "spread on bread or cake." In view of these things, it is absurd to suppose that the average mother would consider that there was anything harmful in Thacher's Worm Syrup and, being likewise convinced of the harmlessness of castor oil, it is not surprising that these two drugs should be given at the same time.

Even when given under the supervision of a physician, dangerous by-effects have been noticed from the administration of santonin. Total blindness and even death have followed the use of this drug in children. That it should be placed on the market with no warning as to its toxicity and sold as "safe" medicine for children is little less than criminal.

Correspondence

The University Medical School of Canton

To the Editor:—The University Medical School of Canton has been a name for six years, and now that it has become a reality it seems only right that our friends in the medical profession should know something about it. The school is under the management of the Board of Directors of the Christian Association of the University of Pennsylvania, and is affiliated with the Canton Christian College, being located on adjoining property. The purpose of the school is threefold:

1. To transform and mold the character of Chinese youth by leading them to a knowledge of Jesus Christ.

2. To give in the English or Chinese language a course in western medicine modeled after that of the best schools in America.

3. To cooperate with the Christian Association of the University of Pennsylvania in its work with the undergraduate body in Philadelphia.

Until the present year the University Medical School has had no buildings of its own, but has rented from the Christian College. The permanent hospital is now, however, being built. It is of brick and reenforced concrete, and for good workmanship and solidity in construction it cannot be excelled by any building in all China. Only the first section is now being erected, at a cost of $16,000, to be finished Sept. 1, 1911. It is estimated that the entire building will be 500 feet in length and will cost not less than $100,000.

The hospital is to be equipped according to the latest ideas of modern hospital construction.

In February, 1910, several students of the Canton Christian College asked us to start a class in medicine. This we finally agreed to do, and at the present time there are five students who have completed one and one-half years' study. During this time they have covered osteology, histology, physical diagnosis and an elementary course in physics. They are still studying anatomy, physiology, therapeutics, etc.

There are now four physicians in charge of the medical school—three American and one Chinese—all graduates of the University of Pennsylvania. In addition to these, there is a secretary and a trained nurse and a number of Chinese helpers.

During the past winter plans have been made for widening the scope of the school by inviting the missions represented in Canton to contribute the services of at least four physicians, thus making it a union school. There has been hearty endorsement of this plan, and it is now hoped that by next March this union school will be started with instruction given in the Chinese language. The plan is to have classes admitted every year to be taught in Chinese, and to admit classes taught in English when sufficient students apply.

The opportunity for original research in a tropical city like Canton is unlimited. The school aims, also, to give opportunities in this direction. The first postgraduate course was held this year when Dr. H. S. Houghton of Wuhu, at the invitation of the school, gave a most instructive course in parasitology and examination of the blood. Thirteen physicians, representing nine different missions, were in attendance—some coming from a distance of 300 miles. The course was held daily for two weeks in February, during the Chinese New Year season, classes beginning at 9:30 a. m. and lasting until 4 p. m. with one and one-half hours' intermission at noon.

Next year it is planned to hold another course, taking up ophthalmology and some other subjects.

As we look back to the beginnings of our great medical schools in the United States, we recall that they owe their origin to physicians trained in Europe who devoted their lives to developing the art of medicine in the American colonies. Can we, who have reaped what they have sowed, do better than follow their example, and help the men in this great land of China to realize their ideals of establishing schools of medicine modeled after the institutions of Europe and America?

WILLIAM W. CADBURY, Canton, China.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

GENERALIZED VACCINIA

To the Editor:—I wish to report a case of generalized vaccinia occurring in a series of eighty-two vaccinations. The patient, T. D., aged 10 years, height 4 feet 8½ inches, pulse 96, respiration 24, temperature 99.9 F., skin dry and harsh, no vaccination scar, although he had been previously vaccinated, presented the symptoms of incipient tuberculosis in the right apex of the lung. He was vaccinated April 24, 1911, at the same time the physical examination was made. About a week later, he states, his arm began to itch and pain him and he scratched it. Following this the arm became swollen from the elbow to the axilla and a few days later vesicles formed which changed later to pustules; these dried up, forming thick brown crusts. The eruption, although discrete, was very profuse over the extremities and back, the chest on its anterior surface having only a few scattered spots. The face also escaped with only three or four points of eruption. About the site of vaccination the pustules were confluent, nearly half of the anterior surface of the arm being occupied by a large, dry crust. The last examination was made June 10, 1911, and the crusts had nearly all fallen off at that time. The question which occurred to me was, Why should one child in eighty-two have a generalized eruption and the others escape? Was it due to the tuberculous condition, to the vaccine or to some personal idiosyncrasy?

C. W. LANE, Fort Spokane, Wash.

ANSWER.—Assuming that the eruption in the case described was that of a generalized vaccinia, an assumption that is not entirely conclusive from the portrayal of the symptoms, the following could be stated: The fact that the child scratched the site of vaccination might readily account for the swollen condition of the arm and for the development of secondary vaccine vesicles in the immediate neighborhood of the primary insertion. Such a complication is by no means rare. The generalized outbreak might have been a true generalized vaccinia of hematogenous origin, or the child might have scratched various parts of the body and produced a generalized vaccinia by auto-inoculation. In true generalized vaccinia, the eruption usually appears from the fourth to the tenth day after vaccination, but most often from the sixth to the ninth day. Spontaneous generalized vaccinia is an extremely rare condition, and many cases reported as such have doubtless been auto-inoculative cases.

As to the intimate cause of true generalized vaccinia, we know but little. It is possible that it might be due to an abnormal susceptibility to the vaccine infection. There is no evidence at hand to suggest that tuberculosis would in any way predispose to generalized vaccinia, unless it be that the skin of the tuberculous is more sensitive to toxins in general, as Sorgo recently suggested (THE JOURNAL, July 8, 1911, page 173).

THE PRACTICE OF OPHTHALMOLOGY

To the Editor:—Please inform me what books contain adequate information from the standpoint of the ophthalmologist for the acquiring of the necessary knowledge to be able to examine eyes and correct errors of refraction satisfactorily. How far is it necessary to carry the mathematical work in optics? Are analytic geometry and calculus absolutely necessary to a practical understanding of physical optics as applied to ophthalmology? Why can't an optometrist refract correctly? R. F.

ANSWER.—There are many works on the market whose contents properly digested, would enable one to make a thorough examination of the eye, including its refraction. First of all the uninstructed student should study one of the shorter and simpler manuals, like May's "Diseases of the Eye," or Wood and Woodruff's "Commoner Diseases of the Eye," following it by a larger text-book such as that of deSchweinitz, Weeks or Duane's translation of Fuchs. For all practical purposes only a knowledge of the fundamental principles of physiologic optics is *necessary* for the practice of ophthalmology but an acquaintance with the geometry and algebra involved in a study of works like Landolt and Donders on the refraction and accommodation of the eye are highly *desirable.* If the capacity to do the mechanical work of determining human refraction were all that is demanded in "fitting glasses" almost anybody might learn how to do it in a comparatively short time but, as a matter of fact, this result is a minor consideration in the practice of ophthalmology. What the public generally asks for is relief from certain ocular symptoms thought to come from needed glasses, but inasmuch as any or all of these may, partly or wholly, arise, not from abnormal refraction but from disease of the eye itself, from the nose, brain, frontal sinus and other organs, and since only a well-trained physician has the ability to determine which of these organs is at fault, it must readily be seen that the optometrist (who has had no medical training) could not possibly be

expected to decide the matter. Moreover, he is not even competent to say whether, for example, the headache or the dim sight the patient may complain of is due to a refractive error, a glaucoma, a brain tumor or to diseased kidneys. Then, again, a considerable training by expert instructors in the use of the ophthalmoscope and other instruments of precision for at least a year is needed to enable the student to recognize the nature and meaning of changes in the interior of the eye —an essential part of the duties of the ophthalmologist. In other words, the practice of the "optometrist" is a part of the practice of medicine and no amount of juggling with words will change that fact; to be a good optometrist is to be a trained physician and an ophthalmologist.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 1, 1911.

Lambie, John S., first lieut., granted leave of absence for two months and fifteen days, about July 1, 1911.

Palmer, Fred W., captain, granted leave of absence for two months, to take effect on arrival in the United States.

Edie, Guy L., lieut.-col., granted leave of absence for one month with permission to go beyond the sea. Lieutenant-Colonel Edie on expiration of leave of absence proceed to San Francisco, Cal., and report for assignment to duty pending the departure of transport sailing from San Francisco for Manila, P. I., Oct. 5, 1911.

Davis, William B., colonel, now at Baltimore, will proceed to Fort Washington, Md., for duty. Orders to Fort Leavenworth, Kan., revoked.

Holmes, R. W., lieut., granted ten days' leave of absence.

Ingalls, R. E., dental surgeon, ordered to proceed to Fort Apache, Ariz., on completion of duty at Fort Huchuca, Ariz.

Griffis, Frank C., M.R.C., relieved from temporary duty at Fort MacKenzie, Wyo., and ordered to return to Fort D. A. Russell, Wyo.

Hall, James F., captain, will stand relieved from temporary duty at Fort D. A. Russell, Wyo., on the return of First Lieutenant Griffis, M.R.C., and return to Fort Riley, Kan., for temporary duty.

Holmes, R. W., lieut., granted ten days' leave of absence.

Marshall, John S., first lieut., dental surgeon, relieved from active service.

Richard, Charles, colonel, ordered to sail from the Philippine Islands to the United States, July 15, instead of Sept. 15, 1911.

Marshall, John S., dental surgeon, left Columbus Barracks, Ohio, en route to Berkeley, Cal. Relieved from active service June 17, 1911.

Worthington, Joseph A., lieut., will stand relieved from temporary duty at Presidio of Monterey and return to Presidio of San Francisco, Cal., July 1, 1911.

Boak, S. D., dental surgeon, left Army General Hospital, San Francisco, Cal., en route to West Point, N. Y., for duty.

Brechemin, Louis, Jr., major, left Fort Lincoln, N. D., en route to Devils Lake, N. D., with 1st Battalion, 14th Infantry.

Billingslea, C. C., captain, ordered to proceed from Army General Hospital, San Francisco, with insane patients to Washington, D. C.

Bispham, William N., major, granted leave of absence for one month, about Aug. 15, 1911.

Medical Corps, U. S. Navy

Changes during the week ended July 8, 1911.

Holcomb, R. C., surgeon, detached from the *North Dakota* and ordered to the *Delaware*.

Pleadwell, F. L., surgeon, detached from the *Delaware* and ordered to the *North Dakota*.

Garrison, H. A., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the naval hospital, Las Animas, Colo., for treatment.

Cottle, G. F., asst.-surgeon, detached from the naval station, Tutuila, Samoa, and ordered to the *Annapolis*.

Connor, W. H., asst.-surgeon, detached from the *Annapolis* and ordered to the *Princeton*.

Simons, M. H., medical director, transferred to the retired list from July 11, 1911.

Ledbetter, R. E., surgeon, ordered to temporary duty in the bureau of medicine and surgery, Navy Department.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 5, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from June 24, 1911, on account of sickness.

Cumming, Hugh S., surgeon, granted seven days' leave of absence from June 20, 1911.

Grimm, R. M., asst.-surgeon, granted seven days' leave of absence under paragraph 191, Service Regulations.

Porter, J. Y., quarantine inspector, directed, at such time as necessity indicates, to make the annual inspection of the quarantine stations in the State of Florida.

Barclay, James, A. A. surgeon, granted fifteen days' leave of absence from June 19, 1911.

Gleeson, C. M., A. A. surgeon, granted twenty days' leave of absence from July 1, 1911.

Horsey, J. L., A. A. surgeon, granted fourteen days' leave of absence from July 8, 1911.

Ransom, Stacy A., A. A. surgeon, leave of absence, without pay, for six months from May 1, 1911, amended to read "extension of annual leave on account of sickness for thirty days beginning May 1, 1911, and six months' leave, without pay, from June 1, 1911."

Schuster, B. L., A. A. surgeon, granted fourteen days' leave of absence from July 5, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE NEW A. P. A.

Evidently the desperate effort on the part of the proprietary interests to intimidate the newspapers by threats and to beguile them by alluring promises of fat advertising contracts, has not been as successful as was evidently hoped. The Columbus (Ohio) *News* comments interestingly on this letter:

A FEW TEMPERATE UTTERANCES OF A NEW A. P. A.

We have received through the mail a copy of a circular addressed to "Dear Mr. Editor," by a new A. P. A., which appears to have headquarters in a lock box at the New York post-office.

This organization has no connection with its forerunner of similar designation. It is not engaged in "protecting" anyone, nor does it concern itself with the manner in which a man finds his way to heaven. But in one respect it is certainly reminiscent of that association which for a year or two made times lively for every politician, big and little.

It is a firm believer in the exaggerated form of address and the superlative degree of denunciation.

The letters A. P. A. in a shield, which appear directly under the number of the New York lock box, which is the headquarters of the organization, stand for Advertisers' Protective Association.

One might expect, not perhaps without reason, that a more pretentious address might have been found for a national association of such importance, but let that go, and consider arguments and admonitions rather than addresses.

First, let it be understood that the circular contains an earnest appeal on behalf of the persecuted "patent medicine" vender, then get this one, hot from the bat:

The bureau of chemistry, as at present conducted, is a standing menace to every man's business.

That is no Texas leaguer, but a sizzler scorching up the grass a few inches inside the foul line, and hitting the pickle sign out in the left field with a dull sickening thud.

Or consider this, which has the true A. P. A. ring to it as it leaves the bat:

Let Dr. Wiley conceive the opinion that any man's product is injurious, he first destroys the business by attacking it through the newspapers and by "bulletins" issued from his department, at public expense, and after everything possible has been done to ruin the business, he then proceeds to attempt to prove his case in the courts. No doubt he hopes to create public opinion favorable to his contention before trying the case, but the important cases so far tried prove that in this he has failed, though he has not failed to do inestimable damage to the business interests so unjustly attacked. It has been asked: "What was Wiley's motive in attacking these industries?" And the answer is usually found in looking for the beneficiaries. In the whisky case, the Kentucky distillers "could a tale unfold." In the bensoate of soda matter, Heinze's "57 Varieties" led the fight. In the matter of Coca-Cola, the manufacturers of "Caffeinless Coffee" were seen hovering in the distance, and in the fight on proprietary medicines the American Medical Association, better known as the "Doctors' Trust," furnishes the sinews of war.

"Doctors' Trust is good, as is also the announcement that Dr. Wiley gets his "stuff" printed by using a big news association.

But there is a touch of pathos at last. Study the scientific bunt in the seventh inning:

If this condition of affairs is not changed, it will result in greatly cutting down the support you receive from the manufacturers of almost numberless foods, beverages and proprietary or "patent medicines," and the question presents itself: Will you and your influential paper stand for such a condition?

Alas and alack, dear A. P. A. friend, we fear we shall have to stand for this condition. In view of the fact that we have done all in our power to bring about such a condition, and intend to do all we can to continue it, we incline to the belief that we shall have to stand it.

Another communication to editors has still further unmasked the plans of the organization represented by "Lock

Box 2124," as shown by a second comment from the editor of the *News* in a recent issue.

LOCK BOX 2124 IS HEARD FROM ONCE MORE

Lock Box 2124, New York, the headquarters of the A. P. A., has been heard from again.

This time a few words are addressed to "Dear Mr. Editor," informing him of the plans of the organization with the post-office headquarters. Lock Box 2124 intends to "get" Dr. Wiley, even if it has to upset presidential plans, break party slates and make quite a fuss generally. Here is part of the notice which is served on all and sundry, Dr. Wiley included:

> When Taft succeeded Roosevelt as President it was hoped that Dr. Wiley's misguided efforts would be restricted, but it appears that the doctor is so intrenched in his position that only a change of administration can effect his removal. If President Taft will not remove Professor Wiley it looks as though it was up to the business interests of the country to bring proper pressure to bear for his removal.
>
> The purpose of this organization is to inaugurate a movement for Dr. Wiley's removal, and to obtain the enforcement of the food and drugs act along reasonable and just lines. If Dr. Wiley is not removed before Jan. 1, 1912, it will be the endeavor of this organization to obtain a pledge from the next Republican nominee, as well as the Democratic nominee, for the removal of Dr. Wiley before said nominee can obtain the support of this organization.

It is as well to be warned in time, so that carefully prepared plans may not miscarry.

As a friend and neighbor we advise Governor Harmon to drop a line to Lock Box 2124 at once. There are others more impetuous who have a desire to serve the nation, and if they get to the lock box first and pledge themselves, what chance would a candidate have whose only recommendations were experience in government, marked ability and absolute honesty?

The mental condition of those whom the gods are about to destroy has been recognized from the times of ancient Greece. As the *Outlook* recently said, any business which out of total receipts of $400,000,000 can afford to spend $100,000,000, or one-quarter of its entire receipts, each year in advertising, will evidently bear investigation.

Newspaper editors and publishers are only human and it would not be strange if the prospective expenditure of this enormous sum of money would have considerable influence so long as the newspaper men were not led to believe that actual harm would result to the public from the proposed advertising. But, when the A. P. A. openly states that the object of its existence is to secure the removal of Dr. Wiley from the Bureau of Chemistry of the Department of Agriculture and to emasculate the pure food law it will find that even the golden bait of $100,000,000 will not be enough to buy up the newspaper editors to support a policy plainly injurious to the public. There may be found here and there an occasional newspaper which will yield to temptation but the great majority will stand as they always have stood, as soon as its moral significance is made clear to them, on the right side of the question.

The boomerang effect of the letter from Lock Box 2124 is well shown by the reply of the *Daily News* of Portland, Oregon, which in breezy, western style responds thus to the invitation to take its share of the $100,000,000 per year:

> What, ho, fellow citizens!!
>
> Ever hear of benzoate of soda and Dr. Harvey W. Wiley?
>
> Well, lest you have forgotten, in the mad rush to earn your daily bread, the recent exposures of the former by the latter, glance at this, and then read about the Advertisers' Protective Association.
>
> "Benzoate of soda" is a chemical combination so powerful that it completely arrests for a long time all natural decomposition in vegetable and animal tissue. It was hailed as a life saver and a blessing in disguise by the food trust, for it was a cheap and inexpensive preservative, and by mixing it in everything from catsup and canned beans to pigs' feet and dill pickles, said food trust waxed fat.
>
> What cared the trust if the same benzoate of soda that preserved the food, tended to preserve the stomachs of the "ultimate consumer"?
>
> Not one whit.
>
> But Dr. Wiley did.
>
> This friend of "us folks" who presides over the Bureau of Chemistry of the Department of Agriculture has been messing around a lot with things we eat, and as a result there are pure food laws. Incidentally it has been hard sledding for the food trust these past years.
>
> In passing, the good doctor took a few jabs at "patent medicines," makers of bad whiskey and other health-menacing concoctions.
>
> Of course, all of this "had a very depressing effect on trade;" that is, most of us shied at having our stomachs preserved.
>
> Enter the Advertisers' Protective Association, "composed of manufacturers of food, beverages and drugs, representing an investment of $400,000,000, whose advertising expenses are annually $100,000,000."
>
> Recognize 'em? Why, of course. Merely the food trust all fussed up in new clothes, with a new name.
>
> Now this A. P. A. affair proceeds to don further disguise. It rents Lock Box No. 2124 in New York City, hires one Frederick W. Cooper as secretary and gets into action.
>
> Frederick W. gets right down to business and has a circular letter printed telling what an undesirable citizen is Dr. Wiley, and urging that he be roped, slaughtered and preserved—probably with benzoate of soda.
>
> But right here Frederick W. Cooper made the mistake of his life, if he intended to work under cover, for he sent one of his circular letters to the editor of the *Daily News*.
>
> "Dear Mr. Editor," begins Frederick, and then he alludes to the "vicious and uncalled-for assaults on foods, beverages, etc.," meaning the unhealthy output of the food trust, and says that probably "many publications have felt the reduction in advertising patronage" as a result.
>
> Right alongside of this is that statement of "advertising expenses are annually over $100,000,000."
>
> Then he points out what an inefficient man is Dr. Wiley, and how the doctor has "squandered" millions of the public's money "circulating untruthful reports about benzoate of soda, whiskey and Coca Cola."
>
> Frederick blames "Heinze's 57 Varieties" with leading the fight on poor old benzoate, says that "Caffeinless Coffee" helped wallop Coca Cola, that the American Medical Association hammered the "patent medicines," and that the Kentucky distillers mauled "whiskey." By innuendo Frederick intimates that Dr. Wiley "benefited" by these attacks.
>
> The letter continues with a plea that the editor write to his senator and congressman and take the matter up in the editorial columns and go for Dr. Wiley, closing with the assertion that "we are American citizens, not Russians, and that bureau-made law and one-man power are contrary to the spirit of our American citizenship."
>
> Well, here is the editor's answer, Frederick.
>
> The *News* does not want any of the A. P. A.'s $100,000,000 a year. More power to "Doc" Wiley. (Senator Bourne and Representative Lafferty, please note.) His is not a one-man regime, an autocratic bureaucracy.
>
> There are 95,000,000 "ultimate consumers" behind the "Doc," Mr. Frederick W. Cooper, and we will back them against your $100,000,000 a year and the other boasted $400,000,000 thrown in. Your gang fed us embalmed beef and bum drugs and benzoated pickles for many a long year, and now we advise you to have a care lest some one of the long-suffering 95,000,000 lies in wait for you at Lock Box 2124, follows you to the lair of the A. P. A.'s and "tips the joint off to the police."
>
> Believe us, Freddie, what has already happened is but a summer zephyr compared to what will happen if you are not careful how you spend that $100,000,000 a year.

The *News* is perfectly right. What has already happened to the manufacturers of fake "patent medicines," bad whiskies, sophisticated food, drugs and all others who seek private gain at the expense of the public health is only a summer zephyr compared to what will happen as soon as the American public realizes the enormity of this effort to exploit the people for private gain. It is incredible that men engaged in large business enterprises and presumably in touch with public opinion should so misinterpret the temper of the American people. A new day is dawning in public health matters and it would be well for those interested in any shady lines of business to recognize the fact and adapt themselves to the new conditions as speedily as possible.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ILLINOIS: Coliseum Annex, Chicago, July 25-27. Sec., Dr. James A. Egan, Springfield.

Oregon January Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, January 3-5, 1911. The number of subjects examined in was 15; total questions asked, 114; percentage required, 75. The candidates examined were 78, of whom 46 passed, including 4 osteopaths, and 31 failed, including 1 osteopath. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Southern California	(1907)	78.2
Denver and Gross College of Medicine	(1905)	79.3
George Washington University	(1908)	85.4
Rush Medical College	(1883) 68.3;* (1902) 73;* (1910)	77
College of Physicians and Surgeons, Chicago	(1905) 85.4; (1908) 75.4; (1909) 82.9.	
Iowa College of Physicians and Surgeons	(1889)	*66.5
University of Iowa, College of Homeopathic Med.	(1910)	77.1
Southwestern Homeopathic Med. College, Louisville	(1909)	85.3
Hospital College of Medicine, Louisville	(1890)	*71.4
Kentucky School of Medicine	(1903)	80.4
University of Maryland	(1910) 79.9,	86.4
Maryland Medical College	(1907)	76.9
Johns Hopkins University	(1909)	87.6
Boston University	(1888)	77.8
University of Michigan, College of Medicine	(1864)	*59
University of Minnesota, College of Med. and Surg.	(1909)	82.2
St. Louis University	(1905)	*70.3
University of Buffalo	(1900) 79; (1907)	83.4
Columbia University, College of Phys. and Surg.	(1908)	85
Jefferson Medical College	(1895) 82.4; (1906)	76.7
Medico-Chirurgical College, Philadelphia	(1905)	86.6
Hahnemann Medical College, Philadelphia	(1909)	83.7
University of Oregon	(1908) 77.4,	79
Western Pennsylvania Medical College	(1899)	*74.9
Queen's University, Kingston, Ontario	(1908)	83.4
Memphis Hospital Medical College	(1909)	77.6
University of Toronto, Ontario	(1907) 81.7; (1908)	84.4
Trinity Medical College	(1902)	80

Non-graduates, 75, 76, 81, 84.3, 86.

FAILED College	Year Grad.	Per Cent.
Gross Medical College	(1892)	64.5
University of Indiana	(1897)	59
Keokuk Medical College, College of Phys. and Surg.	(1906)	48.4
University of Iowa, College of Medicine	(1903)	68.3
College of Physicians and Surgeons, Chicago	(1897)	68.5
Hahnemann Medical College and Hospital, Chicago	(1904)	58
Chicago College of Medicine and Surgery	(1910)	68.9
Northwestern University Medical School	(1906)	73.6
University of Louisville	(1907) 65.2; (1910)	73.1
Kentucky School of Medicine	(1908)	51.6
St. Louis University	(1905)	54.1
Marion-Sims Beaumont Medical College	(1892)	44.2
Kansas City Medical College	(1901)	66.4
Kansas City Hahnemann Medical College	(1909)	64.7
Columbia University, College of Phys. and Surg.	(1885)	58.7
Medical College of Ohio	(1897)	44.1
Starling Medical College	(1906)	73.4
Ohio Medical University	(1904)	66.2
Pulte Medical College	(1888)	59.1
University of Oregon	(1909) 72.2; (1910)	68.4
Willamette University	(1908)	56.1
Jefferson Medical College	(1910)	71.9
Western Pennsylvania Medical College	(1896)	47.9
Tennessee Medical College	(1907)	74
Royal University of Turin, Italy	(1899)	63.2

Non-graduates, 55.6, 56, 71.
* Passed on account of years of practice.

Louisiana May Report

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, May 18-20, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 132, of whom 104 passed and 28 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Arkansas	(1892)	*60.1
College of Physicians and Surgeons, Little Rock	(1910)	78.9
Atlanta College of Phys. and Surgs.	(1899) 78.3; (1911)	77.3
Chicago College of Medicine and Surgery	(1908)	87
Bennett Medical College	(1901)	87.4
Tulane University of Louisiana	(1906) 76.5; (1908) 87.3; (1910) 79.1, 83.3; (1911) 75.2, 77.1, 79.1, 79.8, 80.1, 80.2, 80.6, 81.4, 81.6, 81.8, 81.9, 82.6, 82.8, 82.9, 83.2, 83.2, 83.8, 83.8, 84.5, 84.6, 84.8, 85.7, 86, 86, 86.1, 86.2, 86.5, 86.6, 86.8, 86.9, 86.9, 87.4, 87.7, 87.8, 87.9, 88, 88.1, 88.2, 88.3, 88.5, 88.6, 88.8, 88.8, 89.2, 89.3, 89.4, 89.4, 89.4, 89.8, 89.8, 89.9, 90, 90.8, 91.1, 91.4, 91.4, 91.5, 91.6, 91.7, 92.1, 92.8, 92.9, 93, 93.1, 93.1, 93.4, 94.2.	
University of Tennessee	(1911)	77.1, 77.4
Memphis Hospital Medical College	(1900) 76.1; (1910) 75.9, 76.8; (1911) 75.7, 77.2, 77.3, 77.5, 78.2, 78.7, 80.1, 81.4, 83.1, 85.8, 87.4, 91.8, 92.9.	
College of Physicians and Surgeons, Memphis	(1911)	76.7
University of the South	(1903) 76; (1908)	75.8, 81
University of Nashville	(1909) 84.9; (1911)	79.1, 85.9, 89.4
Baylor University	(1905)	*68.7

FAILED College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1911)	73.4
University of Arkansas	(1911)	54.8
Atlanta School of Medicine	(1911)	31.9
Louisville Medical College	(1906)	70.4
University of Louisville	(1909) 68.1; (1911)	69.3
Flint Medical College	(1910)	68.7, 74.5
Maryland Medical College	(1910)	46.2
College of Physicians and Surgeons, Memphis	(1911)	70.8
Memphis Hospital Medical College	(1901) 60.9; (1902) 69.7; (1909) 66.6; (1910)† (1910 67.4, 69.8, 73.7, 74.6; (1911) 12.9, 60.7, 65.5, 68.8, 70.5, 70.5, 70.7, 72.6.	
Meharry Medical College	(1910) 60.3; (1911)	73

* Passed on account of years of practice.
† No grade given.

Michigan May Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Detroit, May 18-20, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 51, of whom 50 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Baltimore Medical College	(1910)	79.1
Harvard University Medical School	(1909)	86.8
Detroit College of Medicine	(1910) 84.6, 85.5; (1911) 77.3, 77.8, 79.5, 79.7, 79.8, 79.8, 79.8, 80.3, 80.6, 81.7, 81.8, 81.9, 82.1, 82.5, 83.6, 84.3, 84.4, 84.5, 84.5, 84.5, 84.7, 84.8, 85.1, 85.3, 85.5, 85.5, 85.5, 85.5, 85.6, 85.7, 85.8, 88, 88.3, 88.5, 88.5, 88.7, 89.1, 90.3, 90.4.	
Detroit Homeopathic College	(1911) 78.7, 82.2, 83.5, 83.5, 84.7,	85.6
Columbia University, College of Phys. and Surgs.	(1885)	75

FAILED College	Year Grad.	Per Cent.
Detroit College of Medicine	(1910)	69.5

Mississippi May Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 170, of whom 89 passed, including 62 non-graduates, and 81 failed, including 48 non-graduates. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Atlanta School of Medicine	(1911)	1
University of Louisville	(1911)	1
Tulane University of Louisiana	(1901) (1911)	2
Mississippi Medical College	(2, 1910) (5, 1911)	7
University of Nashville	(1911)	1
University of Tennessee	(1909)	1
Memphis Hospital Medical College (1894) (2, 1908) (4, 1910) (1911)	(1890) (1891)	10
College of Physicians and Surgeons, Memphis	(1911)	2
University of Pennsylvania	(1901)	1
University of Virginia	(1910)	1

FAILED College	Year Grad.	Total No. Examined.
University of Alabama	(1905)	1
Howard University, Washington, D. C.	(1910)	1
Atlanta School of Medicine	(1911)	1
Atlanta College of Physicians and Surgeons	(1911)	1
Chicago Homeopathic College	(1900)	1
Louisville National Medical College	(1910)	1
St. Louis College of Physicians and Surgeons	(1908)	1
Mississippi Med. Coll.	(1907) (1909) (1910) (11, 1911)	14
College of Physicians and Surgeons, Memphis	(1911)	1
Memphis Hospital Medical College	(1906) (1910)	2
University of Tennessee	(1911)	1
Meharry Medical College	(1905) (1907) 1908) (1911)	4
Chattanooga Medical College	(1894)	1
Knoxville Medical College	(1909)	1
Gate City Medical College	(1906) (1909)	2

Book Notices

AN INTRODUCTION TO BACTERIOLOGICAL AND ENZYME CHEMISTRY. By Gilbert J. Fowler, D.Sc., F.I.C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester. Cloth. Price, $2.10 net. Pp. 328, with 28 illustrations. New York: Longmans, Green & Co.

The subject of bacteriologic and enzyme chemistry is becoming of such increasing importance that a thorough knowledge of it is essential to any one interested in the technical, industrial and sanitary matters. Indeed, the general physician should have some knowledge of it, especially as presented in this work of Fowler. The various subjects discussed are treated clearly and with sufficient conciseness to assure a careful reader a good understanding of many matters of importance and interest, such, for instance, as the provision of a pure water-supply and the disposal of sewage and other waste products.

The extremely technical parts of this subject are treated in such a way that the average reader who has some knowledge of chemistry cannot fail to grasp it; while the other portions of the work are taken up in a most fascinating way. The book should be of value to laboratory workers especially, and even to the general practitioner.

ACCIDENTAL INJURIES TO WORKMEN. With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast. With Article on Injuries to the Organs of Special Sense, by Cecil E. Shaw, M.A., M.Ch., M.D., Lecturer on Ophthalmology and Otology, Queen's University of Belfast, and Legal Introduction by Thomas J. Campbell, M.A., LL.B., Barrister-at-Law. Cloth. Price, $2.50. Pp. 376. New York: Rebman Co., 1911.

This work is an exposition of the Workmen's Compensation Act of 1906 of England. There is an introduction of fifty odd pages on the legal aspect of the development of compensation to workmen for injuries, followed by a chapter of some length on what legally constitutes an accident. The compensation act itself is then analyzed, and is followed by a long chapter on "Industrial Diseases as Accidents." Three appendices, one on the Workmen's Compensation Act of 1906, one on a list of industrial diseases and one on a report of the Departmental Committee on Compensation for Industrial Diseases, close the volume. Workmen's compensation acts have not yet made much headway in this country, but that they are certain to come seems evident; and as physicians necessarily have a great deal to do with the administration of these acts it is very desirable that they should be as thoroughly familiar with them as possible. Aside from this phase of the question this volume contains much valuable information regarding industrial diseases which is not found in the usual text-book and which is of much interest to the physician.

DIE BEHANDLUNG DER FRAUENKRANKHEITEN. Für die Praxis dargestellt. Von Dr. J. Veit, Professor und Direktor der Universitäts-Frauenklinik in Halle a.S. Geh.Med.-Rat. Paper. Price, 8.20 marks. Pp. 242, with 34 illustrations. Berlin: S. Karger. Karlstrasse 15, 1911.

The average American and English text-book on diseases of women is primitive in comparison with this classical summary of the general operative and therapeutic treatment of gynecologic disorders. The first thirty pages are devoted to the detailed description of the consultation, treatment and operating rooms, as well as the antiseptic preparation of the surgeon, his assistant and the instruments. The author has gone into particulars in describing the technic of all the late operations in gynecologic surgery, including those which are recognized by others and making special mention of those which he prefers. The critic may take exception to some of Veit's preferences. In several instances he clings to operative procedure which has been discarded by the majority in this country: e. g., ventral fixation and the Alexander-Adams operation for retrodeviation. With few exceptions, Veit mentions all the most recent therapeutic measures employed in the specialty, and dwells forcibly on the prominent sociologic problems that confront the gynecologist. As a record of gynecologic practice at the present date, this work will remain for all time an invaluable reference book and an eloquent plea for the specialty of gynecology. The American gynecologist cannot read Veit's contribution without a profound recognition of the close tie in methods and thoughts which bind the advanced gynecologist of this country to Germany. For the younger professional men, especially those who have not had exceptional experience as interns, or the privilege of assisting one of the advanced gynecologists of the day, the book is of unique value.

PROCEEDINGS OF THE TENTH ANNUAL CONFERENCE OF SANITARY OFFICERS OF THE STATE OF NEW YORK, HELD AT Y. M. C. A. AUDITORIUM, BUFFALO, NOV. 16-18, 1910. New York State Department of Health. Paper. Pp. 270. Albany: New York State Department of Health, Division of Publicity and Education.

This pamphlet contains a number of valuable papers and discussions on various phases of municipal and rural hygiene and sanitation by sanitarians of New York and by others who have achieved prominence in various lines of sanitary endeavor. There is one each by Hill of Minnesota on typhoid fever, by Frost of the U. S. Public Health and Marine Hospital Service on poliomyelitis, on venereal diseases by Swarts of Rhode Island, on the reporting of contagious diseases by Levy of Virginia, one on rural hygiene by Freeman of the same state and one by Hall of Minnesota on handling garbage, beside many other practical papers. The collection constitutes a valuable document for health officers, presenting a variety of late views and information on the vital features of public sanitation and the prevention of disease.

Medicolegal

Illegal Practitioners Not Libeled by Published Demand for Their Removal from Building—Use of Terms "Osteopathic Physician" and "Quack"

The Supreme Court of Washington affirms, on the second appeal of the alleged libel case of Lathrop vs. Sundberg and others (113 Pac. R. 574), a judgment of dismissal in favor of the defendants. The plaintiff, an osteopath, wanted $75,000 damages because of the publication by the defendants in a newspaper of the following: "We the following reputable physicians and dentists, occupying offices in the Eitel Building, endeavoring to uphold the honor and dignity of our professions and desiring to encourage only the best and most desirable tenants for our office building, and thereby conserve the best interests of the public at large, are most emphatically opposed to the indiscriminate rental of offices in this building to osteopaths, neuropaths, autopaths, chiropractors, umtomtereists, unprofessional masseurs, criminal practitioners, 'medical institutes,' advertising 'specialists,' patent medicine fakers, quacks, charlatans and other fraudulent concerns. We, therefore, demand the removal of all such persons now holding offices in this building and the exclusion therefrom of all such undesirable tenants in the future."

The court says that the plaintiff testified that, while pursuing his calling as a barber, he read four typewritten lessons a week for fifty-two weeks from an osteopathic correspondence school, embracing the subjects of anatomy, physiology and pathology; that he had on his office door the words "Dr. C. F. Lathrop, Osteopathic Physician," while in that building. He insisted that he should have been permitted to offer further evidence tending to show that he was an osteopath, and that his case should have been submitted to the jury. But the court thinks that the correct view of the case was taken when it was withdrawn from the jury and a judgment of dismissal entered. It appeared from the testimony of the plaintiff himself that he was pursuing his practice in a manner forbidden by the laws of the state, which make it a misdemeanor for a person to maintain "an office or place of business with his or her name and the words * * * 'Doctor' * * * in public view," without having obtained and filed a license as provided by law. In State vs. Pollman, 51 Wash. 110; 98 Pac. 88, it was held that a prefix or qualifying words to the title "Physician" did not relieve a party from the penalty of the statute; that the abbreviation "Dr." offended the law to the same extent as the word "Doctor;" that the

purpose of the statute is to protect the people against deception; and that "it is practitioners of the regular school rather than the others that the ill and infirm seeking relief usually expect to find when entering a room whose door has lettered upon it the name of a person preceded by the title 'Dr.' or followed by the letters 'M.D.,' or 'Physician and Surgeon.'"

Without undertaking to define the words "quack" and "charlatan," the terms by which the plaintiff was characterized in the libel, it suffices to say that he was knowingly luring patients into his office by a method condemned by the penal laws of the state. This was a fraud and imposition on the public, and the law will afford him no redress for the loss of earnings sought to be acquired in that manner. On the former appeal this court said, speaking of the libel in question: "Clearly this is libelous *per se* (in and of itself), if published of and concerning the appellant (plaintiff), and he is engaged in a reputable practice, and that it was published of and concerning the appellant, and that his practice is reputable, was distinctly alleged in the complaint." He could not be engaged in a reputable practice while offending against the statute. As was said in Hargan vs. Purdy, 93 Ky. 424; 20 S. W. 432: "If he was then undertaking to practice medicine in violation of the statute of the state, he could not, in contemplation of law, have been injured or sustained damage from being called an 'empiric' or 'quack;' or, at all events, he could not be heard in a court of justice to complain that words had been spoken or written of him having the simple effect to disable or deter him from violating a penal law." See, also, Marsh vs. Davison, 9 Paige's Ch. 580.

The plaintiff contended that he had a common-law right to practice osteopathy without a license; that he was libeled while pursuing that right; and that his damages should have been assessed by the jury. If he had advertised and practiced as an osteopath, that question would have been presented, while under the above circumstances it was not.

Constitutionality of Law Providing for Medical Examination and Detention of Prostitutes

Justice Bischoff says, in delivering the opinion of a Special Term of the Supreme Court of New York, New York County, in People vs. Fox (127 N. Y. S. 484), that, on the theory of discrimination between men and women, the attack on the constitutionality of section 79, chapter 659, of the New York laws of 1910, providing for the medical examination of prostitutes, was not well founded. It is unquestionably an enactment having for its aim the safeguarding of the health of the inhabitants of the state, and the matter is fully within the police power. Ground of argument is not lacking that the danger from the spread of disease by women of the class in question is greater than the danger existing from the disease in the case of men, and that the present regulation is necessitated as a step distinct in its nature from a corrective measure which may be directed to the diseased condition of males. The question of expediency, therefore, was for the legislature, and it is not to be determined as an original matter by the court.

There was clearly merit, however, in the contention that the statute directs the detention of the accused, without due process of law, in that the nature of the sentence, after conviction, is made to depend on the report of a physical examination without the opportunity for a hearing on the facts entering into the report. The conclusion of the examining physician is made binding on the court. The report is presented to the magistrate, "and if it thereby appears," says the statute, that the prisoner is afflicted with the disease in question, "the magistrate shall commit her to a public hospital" for a period which, in the magistrate's discretion, may be one year—a period greatly exceeding the maximum time of detention prescribed for the same offense in the absence of a physician's report. Since the physician is not a judicial officer, and since the magistrate cannot hear the accused as to the correctness of the facts stated in the report, but is bound thereby, the penalty attaching to conviction of the offense is made to depend on an independent inquiry out of court, with the result that the convicted person is deprived of the benefit of due process of law.

Society Proceedings

CONNECTICUT STATE MEDICAL SOCIETY

One Hundred and Nineteenth Annual Meeting, held at Hartford, May 24-25, 1911

The President, Dr. FRANK K. HALLOCK, Cromwell, in the Chair

The officers elected were named in THE JOURNAL, July 1, p. 31.

A Farm Colony for Alcoholics in Connecticut

DR. FRANK H. BARNES, Stamford: In order to get some statistics on the subject to present to the society, letters were mailed to the judges of the courts of the leading cities in the state. The answers to these letters lead me to think that it would be advisable to establish a farm for alcoholics in Connecticut. I would suggest that the president of this society be given power to appoint a committee to present this matter to the legislature of this state, and to ask for the appointment of a commission to investigate the matter. (This committee was appointed.)

The Diagnosis of Syphilis

DR. JESSIE W. FISHER, Middletown: The serum reaction makes possible the early diagnosis of syphilis. It is corroborative of the clinical symptoms, invaluable in the differential diagnosis of obscure disease, an index to the progress of recovery, and a guide to marriage. With the cyto-analysis of the cerebrospinal fluid, it is diagnostic of dementia paralytica.

The Feeding of Sick Infants

DR. CHARLES A. GOODRICH, Hartford: The various substitutes for milk feeding in illness, such as cereal decoctions, albumen water, a sugar solution and whey, have a low food value, as ordinarily prescribed. While these are useful in certain classes of cases there are contra-indications to their use in many instances. Intolerance for milk, due to disease or to some inherent peculiarity, occurs in some infants. In these the cereal gruels, plain or dextrinized, are useful.

DISCUSSION

DR. H. MERRIMAN STEELE, New Haven: I have frequently fed summer-diarrhea patients with well-cooked cereals, nearly as thick as the ordinary breakfast foods, and I believe, with much better results than could be obtained by using the weak cereal waters. If one must starve the baby for 24 or 48 hours, water alone is the best treatment, attention being paid to the salts. I agree with Dr. Goodrich in his recommendation of milk sugar as a proper food for tiding over acute cases. In rectal feeding, dextrin in solution probably furnishes more absorbable material than any other food at our command. In adding milk-sugar to whey, one may easily overstep the limit of tolerance for sugar, because whey itself contains over 47 per cent. of this ingredient. Undue stress is often laid on the character of the stools in convalescent cases of summer diarrhea. This is absolutely no contra-indication to beginning milk feeding. I would suggest a trial of buttermilk in cases in which there is intolerance for milk. For both sick and healthy infants, one should not forget the value of the salts of food.

DR. WALTER G. MURPHY, East Hartford: Empirically, it has been found that children after the age of three or four months often do better on a mixture of milk and barley-water than on one of milk and water or any other diluent. Its food-value, however, is so little that, if long continued, the patient may suffer from a lack of nourishment. In acute irritative diarrhea, the indications are to get rid of all irritating substances in the intestinal tract, and to withhold all food until the vomiting has ceased. In cases in which the babies have some infection and are overfed, plenty of water and plenty of rest are indicated; and if these children are not too much depressed, they are better without food. In acute fermentative diarrheas, if the child's condition will warrant it, the withholding of all food until the intestinal tract has been cleared of fermenting substances is better than the giving of nourishment. In babies whose general condition has not been

good, and whose powers of resistance are below normal, and who are subject to frequent attacks of diarrhea and vomiting, the withdrawal of all food is usually disastrous. If the stools are offensive, cereal foods, either plain or dextrinized, given to the extent of the digestive capacity, are necessary.

The Relation of the Medical Profession to Opticians

DR. HENRY W. RING, New Haven: In the passage of so-called optometry laws throughout the United States, the help of the medical profession has been solicited with no small degree of success. This aid has been obtained through misrepresenting the possible and actual evils to which the public may be subjected. Many physicians send patients to opticians for examination and treatment of the eyes, forgetting that opticians bear the same relation to the ophthalmologist that druggists bear to the general practitioner. A large number of cases of serious disease of the eyes have been treated by opticians with glasses, the real trouble not being suspected. The eye is not only subject to diseases peculiar to itself, but also participates in and gives evidence of affections of the other parts of the body; and anyone unacquainted with this relationship is bound to make mistakes. The measurement of errors of refraction and anomalies of accommodation and of ocular motility, with or without the aid of drugs, is not a simple mechanical procedure, but represents one of the most important therapeutic measures in the practice of medicine. The oculists have shown more activity than the general practitioners in opposing the extension of this optometry legislation, because they so frequently see the unfortunate results; but this opposition should not be confined to them. The situation should be appreciated by the profession in general.

Some Problems Connected with the Inspection of Schools

DR. EDWARD W. GOODENOUGH, Waterbury: The most important work of medical men to-day is connected with the growth and development of the child. Medical inspection of schools is primarily for the benefit of the growing child. It is not a charity. The town or the state should be willing to pay members of the medical profession a reasonable amount in order to give the children in school protection against disease. A school nurse is also a necessity, as she is a help to the physician in many ways. Until the position of medical inspector of schools is fixed on a firm basis, physicians appointed to this office must be willing to give the town more than a full equivalent for the money invested in this work.

DISCUSSION

DR. CHAS. P. BOTSFORD, Hartford: It is a duty we owe to the rising generation to try to influence fathers and mothers in favor of medical inspection, and to convince them that it is not necessarily very expensive. A properly devised medical inspection, suited to the town and the school in which it is made, will pay for itself in more regular attendance and better work on the part of the children.

DR. FRANK H. BARNES, Stamford: There are more feebleminded children, idiots and imbeciles in the schools than one would think. I believe that it would be better not to include the small country towns, and it should be decided whether the school committee or the public health boards shall take charge of the inspection.

DR. THOMAS G. SLOAN, Manchester: During the past year, we had two serious and long-lasting epidemics, one of diphtheria, and one of scarlet fever. Throughout this time, every child's throat was examined twice a week. Cultures were made from throats found inflamed. In this way, we discovered and sent home some children with scarlet fever. When necessary, the school-room was fumigated. Medical inspection has been in existence two years in Manchester, and we are well satisfied with its results.

DR. EDWARD K. ROOT, Hartford: The general public, knowingly or otherwise, make a sharp distinction between contagious diseases, in which their children's lives may be endangered from coming into contact with those that are ill, and conditions of malnutrition and degeneracy, which they regard as no one's business but their own. In Hartford, where medical inspection has been in existence ten years, we always turn over the treatment of the sick children discovered to their parents. If they are not taken care of at home, then the town must take care of them. Everything that the State does for the child lessens the responsibility of the parents to just that extent.

DR. HENRY F. STOLL, Hartford: One thing that has impressed me is that the teachers are not capable of picking out the delicate children. I tried to have them pick out and send to me cases suitable for our out-of-doors school. Finally, I adopted the plan of standing at the foot of the stairway when the school was dismissed, so that I might see the children in a good light walking. I could then select the cases and have them sent to me for a more careful examination later on.

DR. SAMUEL M. GARLICK, Bridgeport: Referring the matter back to the parent educates the parent and the child itself. It is much more desirable to educate the individual than to educate the public. Dismissing the matter without reference to the family physician tends to reduce the confidence in him that the family should have.

DR. GEORGE H. WRIGHT, New Milford: The parents can be perfectly educated in almost every case, not only to submit to the inspection, but also to carry out the recommendations made by the inspector.

Case of Bronzed Diabetes

DR. GEORGE BLUMER, New Haven: This case showed the triad of symptoms and signs that characterize typical examples of bronzed diabetes. The form of diabetes associated with this condition is usually acute. The skin pigmentation, which is entirely lacking in about one-sixth of the cases, varies greatly in both color and situation. In many of the reported cases, disease of the liver was present years before the appearance of the other manifestations. Some patients enter the hospital with gastro-intestinal disturbances. The occasional occurrence of the clinical evidences of blood destruction may be noted. The disease is confined almost exclusively to males, usually between the ages of 30 and 60 years. Alcohol plays an important part in the etiology of many cases. The amount of iron that is present in some of the organs, as well as the skin lesions, is very considerable. The blood destruction taking place within the portal zone may lead to the deposition of pigment, with its maximum deposit in the abdominal organs, much like that which occurs in hemochromatosis. The differential diagnosis may be simplified by pointing out that a combination of pigment with an enlarged, hard liver and glycosuria is not liable to occur in any other condition. While the possibility of the occurrence of diabetes or of an enlarged liver as a complication of various diseases associated with pigmentation of the skin cannot be denied, the likelihood that this triad of symptoms and signs will occur outside of bronzed diabetes is very small.

DISCUSSION

DR. WILDER TILESTON, New Haven: The name hemochromatosis is preferable to bronzed diabetes, because it covers cases of pigmentation of the skin without signs of diabetes. In 1889, I saw such a case. The patient looked like a mulatto, though his skin had been fair before his illness. He showed no enlargement of the liver, and no sugar in the urine. Microscopic inspection showed the presence of iron pigment, which does not occur in any other condition than hemochromatosis though its absence does not exclude that diagnosis. The coloring matter is probably brought to the cells by the blood, and not manufactured locally by the skin. Pigmentation of the skin has usually been considered indicative of Addison's disease, but I have found only the minority of cases to be due to affections of the adrenals. The pigmentation of arsenic, though rather uncommon, must be borne in mind in this connection. It is possible to have pigmentation of the mucous membrane of the mouth in people otherwise healthy.

Law, Medicine and the State: Some Points of Contact

DR. FRANK K. HALLOCK, Cromwell: The members of the professions are, in the main, the recognized exponents of the best thought and the most worthy ideals; and, as such, the

great mass of the people who are less favored in education, have a right to look to them as the natural leaders in the solution of civil problems, moral and physical. Independent effort cannot be so successful as the effort that has back of it an organized body or class. Such organizations in the professions should have at least two objects: to raise the standard of their own efficiency, and to discharge their duty to the state by accomplishing results calculated to benefit the general public. Law and medicine should get together for the benefit of the state on such points of contact as expert testimony and boards of health.

The Importance of Early Operation for Tumors of the Breast

DR. GEORGE N. BELL, Hartford: The situation in regard to breast tumors has not changed much in the past century. If we can be absolutely sure of their benignancy, they should be let alone, and if malignant, they should be removed. The treatment depends on our ability to decide which is which. Eighty per cent. of all breast tumors are malignant, so the need of early diagnosis and operation in cases of malignancy is apparent. The operative mortality is less than 1 per cent., so it is a wonder that the postponement of operation in these cases it still considered. Multiple tumors of the breast are usually benign. The one positive means of diagnosis is the microscopic. One cannot, however, be sure that a benign tumor will remain benign. Therefore, it is best to remove a mass in the breast as soon as attention is called to it, to submit to the pathologist for examination and operate radically if necessary. The chief factor in the prognosis, next to the extent of the growth, is its glandular involvement. The more radical methods of operating, consisting in the removal of both muscles and axillary contents, and the greater rapidity in doing the work, have given much better results than were formerly obtained. Another advance has been in the employment of frozen sections in all doubtful cases.

DISCUSSION

DR. OLIVER C. SMITH, Hartford: The majority of benign tumors of the breast, except the lipomata, should be removed. These tumors frequently become malignant. One cannot always tell at operation whether one is dealing with benignity or malignancy. We should try to educate the laymen to realize that a tumor of the breast is a dangerous thing and should be investigated at once by a competent man.

DR. CHARLES E. TAFT, Hartford: I cannot emphasize too much the importance of examining all the organs of the body liable to metastasis before deciding to operate on the breast. After the muscles have been dissected away, it is best to tie all the small blood-vessels in the chest with a needle and thread, in order to prevent secondary hemorrhage. Unless a physician is himself prepared to urge the patient to submit to operation, he should immediately refer all tumors of the breast to a surgeon.

DR. CLARENCE E. SKINNER, New Haven: Early and thorough ablation is the first and most important step to be taken in the great majority of cases, but in order to prevent recurrence, roentgenization should be employed immediately after every ablative procedure for cancer. The *x*-ray exhibits a powerfully curative influence over malignant processes in many cases, and in a disease with such a gloomy prognosis, it is not justifiable to omit the application of any means of control that has demonstrated that it possesses value. It is impossible to tell at the time of operation in which cases recurrence will take place, and recurrence is frequently more resistent to the *x*-ray than the original lesion. Early recurrences are frequently internal and give no sign of their presence until it is useless to do anything.

Intestinal Obstruction, with Especial Reference to Intussusception in Infants

DR. OWEN O'NEIL, Willimantic: The palpation of a sausage-shaped tumor through the abdominal wall is by no means an unfailing guide. Vomiting, though fairly constant in acute intussusception, may not be present. The value of prompt operation, limited to the relief of the actual acute condition, cannot be overestimated, nor the uselessness and even danger of palliative measures, which may ameliorate the active symptoms of the disorder, even simulating true reduction, and thereby may cause serious delay in the institution of radical treatment. Mechanical obstruction by a foreign body in the intestines may present all the general symptoms of an intussusception.

DISCUSSION

DR. JOSEPH M. FLINT, New Haven: In two cases of true intussusception there was an absence of abdominal tumor. Acute abdominal symptoms, mucohemorrhagic stools and a palpable tumor in the rectum are the most common signs of intussusception in young children. I think that there is a group of cases in which palliative treatment deserves a wider recognition, those in which the intussusception may not be reducible and in which an extensive gangrenous process may be present, with relatively few objective symptoms and no general reaction indicated by signs. However, because we cannot tell when palliative means will lead to serious results, the operative method should be applied as early as possible.

DR. JOHN W. WRIGHT, Bridgeport: Some years ago I was called into consultation on two cases that were, without doubt, intestinal intussusception, but which were then mistaken for cases of mild enterocolitis. Unfortunately, the diagnosis was not complete enough to warrant a resort to operation and both children died. I have found intussusceptions in some cases at the post-mortem examination, as many as twelve in one case. I have not, within the last few years, seen any cases of enterocolitis in children resulting in intussusception. Therefore, I have not operated in that sort of case.

DR. JAMES H. KINGMAN, Middletown: One case of intussusception which I saw illustrates the point of not doing too much at one time. We found 5 inches of black, gangrenous gut, but, as the child's condition was very bad, we thought it unwise to resect. We therefore stitched around the gut and made an artificial anus. The child afterward did pretty well. Most of the gangrenous part finally sloughed off, leaving the double ends projecting out of the abdomen. These I clamped and obtained motions through the normal passage. A few months later I did a resection and had a perfect result. I believe that if I had tried to do more at the time of the first operation than to make an artificial anus the child would have died.

DR. JOHN B. BOUCHER, Hartford: Some years ago I had the accident of reinvagination happen in one of these cases. In order to prevent this in a subsequent case I dissected off the mesentery, brought the cecum down to the abdominal wall at the point where it should have been, drew the appendix through the tendon and put a piece of adhesive plaster over the appendix, leaving it there for twenty-four hours. I then cut it off, obtaining primary union.

DR. HARMON G. HOWE, Hartford: One should not be too energetic with the hydrostatic method, nor trust to the apparent recentness of the attack, for some of these cases are partially invaginated for some time before presenting symptoms. Even if we do succeed by this means in reducing the intussusception, death will sometimes take place from gangrene.

DR. EDWARD W. SMITH, Meriden: In a case of intussusception of the ileocolic variety in a child of eleven months, 2 or 3 inches of the cecum were drawn in. After the operation the child made a good recovery. Six months later it had another invagination, probably due to having eaten a large amount of peanut candy. This time I employed Dr. Taft's method of inverting the child and manipulating the bowel. The tumor disappeared and the child dropped into a quiet sleep.

DR. O. C. SMITH: I think that I would be inclined first to try palliative measures, because in a child this is a serious operation. If warm sweet-oil is used the intussusception may be carried up, though not quite undone. This shows the region where the intussusception starts from and gives an idea where to operate.

Peritoneal Tuberculosis

DR. DANIEL SULLIVAN, New London: Tuberculous peritonitis mimics every other abdominal disease or condition. It is secondary to tuberculosis in some other organ in 90 per cent.

of the cases, the lungs being the primary seat more frequently than all the other organs taken together. I have had two cases in which jaundice was a pronounced symptom. While peritoneal tuberculosis is sometimes a surgical disease it is always a medical one. The medical man should treat his patients with rest, fresh air, nutritious food, medicine (if necessary to help the emunctories) and all that goes with good nursing. If, after five or six days, there is no improvement and the case is one of the ascitic form or when the Fallopian tubes or the appendix appear to be the location of the mass, a laparotomy should be advised. A simple incision and the evacuation of the fluid, with a removal of the primary seat of infection, if possible, is the best procedure, the wound being closed without drainage. Then begin again with the hygienic treatment.

DISCUSSION

DR. JOHN B. BOUCHER, Hartford: Abdominal drainage should not be used, because mixed infection should be avoided in such cases. If this is prevented tuberculosis is a comparatively harmless disease.

DR. SELDOM B. OVERLOCK, Pomfret: The medical treatment of these cases consists in putting the patient in the most favorable condition to resist the disease. The surgical treatment can be of service in eliminating the foci of infection and covering them up. We thus get rid of as much tuberculous material as possible, leaving Nature to pour out an effusion to help bury what is left.

DR. DAVID R. LYMAN, Wallingford: I have usually referred these patients to the surgeon, because of acute appendicitis, but back of this there has been the tuberculous peritonitis. In several cases I have seen bad effects from ether anesthesia and am inclined to be very cautious in its use in patients with tuberculous peritonitis.

The Two-Stage Operation for Intestinal Obstruction

DR. EDWARD R. WHITTEMORE, New Haven: I have found it advisable to do a simple enterostomy at first, leaving the removal of the obstruction until later. The operation should be done as early as possible, with the usual preparation of the patient, especially remembering to wash out the stomach before giving the ether. Only the briefest examination should be made at the operation to discover the site and cause of the obstruction, the search being abandoned if not soon successful. A simple enterostomy is then done on the most distant loop, preferably not in the median line. If any gangrenous gut is seen it should be drawn into the wound, secured there and opened. All other procedures should be left until the second stage, a week or so later, when the patient will be found in a good condition to stand it. The object of this procedure is, first, rapid and efficient drainage of the bowel. The relief of the obstruction is secondary and should be taken up later.

DISCUSSION

DR. EVERETT J. MCKNIGHT, Hartford: It seems to me very important to realize that above the point of obstruction there is a large amount of toxic material, which, if allowed to go down through the bowel, may be absorbed and cause trouble. In intestinal obstruction we should not, as a rule, close up the bowel in the abdomen without due precaution against this source of intoxication. I should like to call attention to the advisability of doing an enterostomy also in many cases of postoperative distention when this cannot be relieved by any other means.

CANADIAN MEDICAL ASSOCIATION

Forty-Fourth Annual Meeting, held at Montreal, June 7-9, 1911

The President, DR. GEORGE E. ARMSTRONG, of Montreal, in the Chair

President's Address

DR. GEORGE E. ARMSTRONG, Montreal, sketched the history of the origin and development of the Canadian Medical Association. The Roddick Bill for Dominion registration was classed as the most forward medico-political question before the profession in Canada to-day. Dr. Armstrong expressed the hope that with the adoption of this act, before long the councils of the English-speaking province would unite on a uniform standard of matriculation, although Quebec would have to remain outside on account of different educational methods. The question of the water-supply of Canada was dealt with at considerable length. Dr. Armstrong declared that in such a country as Canada with its abundant pure water-supply it was a reproach to any municipality, large or small, to have water-borne diseases. "We should not be satisfied in Canada until the water-supply throughout the country is made safely potable and make it so that the guide books can say that tourists can safely drink the water in any Canadian city." The remainder of the address was taken up with a consideration of the housing problem in Canada.

Address in Surgery

DR. A. PRIMROSE, Toronto: The present status of surgery in Canada has been one of gradual evolution. Canada being a young country, something of the spirit of the pioneer settlers has been inherited and Canadian medical men are more ready to develop along lines which may be new and revolutionary in character. The consequence of this willingness to learn has been that nowhere is work done in surgery with more uniform efficiency than can be found in the hospitals of Canada to-day. Conservatism is surely to be commended, but that type of conservatism which is tempered with an ability to use calm and deliberate judgment in determining what is best for our patients and when new light is thrown on some obscure problem we should be ready to abandon any erroneous ideal, which we may hitherto have held, and be prepared to advance, seeing no finality in our present-day methods, but always endeavoring to attain the ideal.

The Surgical Treatment of Gall-Stone Disease

DR. WILLIAM J. MAYO, Rochester, Minn: In reviewing 4,000 operations which we have performed on the gall-bladder and biliary passages, I have been impressed with the fact that the mortality was due to the complications incident to the disease rather than to the removal of gall-stones from the otherwise normal gall-bladder. Not only is the mortality greatly increased by the involvement of the deep bile passages, the liver, the pancreas and neighboring viscera, but the gall-bladder may also be found in such condition as to render an attempt to save it impracticable and fraught with a possibility of a recurrence. The gall-stones, however, are the responsible agents in the production of these complications inasmuch as they set up a train of events, which would not have occurred had these gall-stones been removed early in the history of the disease. It is in this early period that an operation furnishes an easy, safe and efficient cure. Cholecystostomy, with temporary drainage of the gall-bladder to the surface, is the operation preferred because it saves this valuable organ for future function. The danger of reformation of gall-stones after cholecystostomy is exceedingly small. In our service we observed but three cases in which stones had reformed and it is probable that in the majority of supposed cases of reformation of gall-stones the stones had not reformed, but were incompletely removed at the primary operation, an accident which does not often happen when the operation is done early.

In the class of cases in which the gall-bladder is contracted down on a mass of stones secondary carcinoma is liable to develop. In our experience 2.25 per cent. of all operations on the gall-bladder and biliary tract have shown malignant complications. The danger of carcinoma alone is five times as great as the mortality following operations for the relief of simple gall-stone disease. So long as the stones are confined to the gall-bladder, the trouble remains local in an organ which is not essential to life, but with the entrance of stone and infection into the deep duct of the liver two fundamental organs which are essential to life are liable to be involved in the process, namely, the liver and the pancreas. Stones in the common duct not only impair the health of the patient, but complications directly threatening life may arise at any time.

In the 4,000 operations the average mortality was 2.75 per cent. In 2,920 the disease was local and confined to the gall-bladder and cystic duct. The operative mortality was 1.8 per cent. In 2,165 of these cystostomy was performed with a mortality of 1.5 per cent. In 755 cases, cystectomy was performed with a mortality of 2.4 per cent. Contrast these data with 492 cases in which the common duct was involved with an average mortality of 8 per cent., a mortality which depended not so much on the operation itself as on the extent of the involvement of the liver and pancreas, and the bad general condition of the patient. Pancreatitis as a complication occurred 359 times in the 4,000 cases.

Preventive Medicine the Medicine of the Future

SIR JAMES BARR, Liverpool, England: The hope of the human race lies in the physician. Almost all the ills to which flesh is heir arise from the stomach and are preventable. If, then, the public were only alive to their own interests, they would pay medical men liberally for directing them in the paths of truth and in the ways of health rather than for treating their diseases. If the money spent in the treatment of disease was devoted to the preservation of health, our huge hospitals would not be half filled, purveyors of synthetic remedies and artificial foods might find a suitable shelter in the home for the destitute, and specialists would largely disappear, and physicians would be fully occupied in advising their clientele on the preservation of health and in looking after the aged. So far as preventive medicine is concerned, very little can be placed to the surgeons' credit. About the only diseases they attempt to prevent are those which spoil their operations—erysipelas, pyemia and septicemia. With regard to the crying need for controlling the birth-rate of the unfit: Those countries which have to a large extent suspended a selective death-rate but are not wise enough to establish a selective birth-rate, are certain to decay. I am not now so much concerned with the prolongation of life as with the preservation of health. When a life ceases to be efficient it may retire into obscurity, be withdrawn from circulation or receive an old age pension.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Surgery, Gynecology and Obstetrics, Chicago

June

1 *End-Results of Twenty-Five Cases of Tuberculosis of Kidney Treated with Nephrectomy. J. Borelius, Sweden.
2 Suprapubic Transcystic Removal of Calculi Impacted in Portion of Ureter Which Is Situated in Bladder Wall. W. J. Mayo, Rochester, Minn.
3 *Congenital Umbilical Hernia. F. A. Palmer, Morris, Ill.
4 *Testing Viability of Strangulated Intestine. S. C. Plummer, Chicago.
5 *Common Fallacies Regarding Skin Disinfection, with Special Reference to Iodin Methods. M. B. Tinker and H. L. Prince, Ithaca, N. Y.
6 *Congenital Stenosis of Ureter. D. N. Eisendrath, Chicago.
7 Case of Inguinal Hernia of Urinary Bladder. H. I. Ostrom, New York.
8 *Placenta Prævia. E. McDonald, New York.
9 Peritonitis. J. W. Kennedy, Philadelphia.
10 *Stenosis of Pylorus in Infancy. H. M. Richter, Chicago.
11 Anatomic Repair of the Female Pelvic Floor. C. M. Watson, Pittsburg.
12 Surgery of Fractures and Dislocations of the Nose. J. B. Roberts, Philadelphia.
13 *Position for Saving Time and Facilitating Combined Abdominal and Pelvic Outlet Operations. A. C. Scott, Temple, Texas.
14 Case of Omental Myxosarcoma. A. McLean, Detroit, Mich.
15 New Prostatic Depressor. G. F. Shiley, Seattle, Wash.
16 Complete Anatomic and Functional Restoration of the Anus. H. T. Hutchins, Boston.
17 *New Method of Treating Stump in Appendectomies. J. T. Greeley, Nashua, N. H.
18 Artificial Synovial Fluid. R. T. Morris, New York.

1. **Treatment of Tuberculosis of Kidney.**—Of Borelius' twenty-five patients, ten were men and fifteen were women. The right kidney was affected in seventeen cases and the left in eight. The youngest of the patients was 13 years old and the oldest 57. The average age was 30 years. If the end-results are summed up, the matter stands as follows: Dead, seven patients, six of them from tuberculosis; recovered, nine; improved, nine; not improved, none. These results put together with like results previously communicated by Israel and Krönlein seem to indicate that one must count on a mortality of 25 per cent., but that the remaining 75 per cent. of patients, as a rule, have good prospects of regaining full health through the operation. Krönlein has recorded health eighteen years and Israel fifteen years after nephrectomy for tuberculosis in the kidney.

3. **Congenital Umbilical Hernia.**—In this case Palmer united the skin and peritoneum across the hernia opening in such a manner as to prevent the immediate recurrence of the hernia, depending for its ultimate cure on the tendency of the umbilical ring toward closure during the early weeks of life. The absence of abnormal scar formation and presence of normal puckered umbilicus is a matter of gratification, but of minor importance. The idea of leaving the cure of a hernia to the well-known tendency of these openings toward closure during the child's early years is not a new one. It is new only in its application to the umbilical ring.

4. **Testing Viability of Strangulated Intestine.**—A recent case in which he operated for strangulated hernia suggested to Plummer a procedure of encouraging the return of the circulation in the strangulated loop. Here was an intestine whose viability was questionable. It was highly desirable that it be replaced, if this could be safely done. Plummer accordingly applied hot compresses, wet with normal salt solution, for fifteen minutes. Not only was there no improvement in the circulation of the parts which had been strangulated, but the adjacent normal intestine was becoming edematous and of a darker red color than before. Realizing that it was the traction which he was making that interfered with the circulation, Plummer temporarily reduced the affected parts, at the same time delivering some of the adjacent intestine, so that he could again withdraw the affected parts for inspection. After allowing the previously strangulated parts to remain in the abdominal cavity three minutes, he withdrew them. The change was striking. All swelling had left the intestine, the color was normal and the furrows at the two constricted points could scarcely be seen. All that was left of the evidences of circulatory disturbance was an area of venous stasis, 1 inch long and one-quarter of an inch wide, on one side of the mesentery, close to the bowel. The hernia contents were at once reduced for the second time, this time permanently, and the operation completed, the patient making an uneventful recovery. Plummer recommends the further trial of this procedure of temporary reduction.

5. **Skin Disinfection.**—Experiments made by the authors lead them to conclude that iodin does not fulfil the requirements for safe preparation of the skin, that it will not destroy the spore-forming bacteria occasionally present. The fact that moisture in the skin interferes with the action of iodin, contra-indicates its use in many accident cases, in which, owing to the nature of the wound, it has been recommended as most advantageous. Basing their action on their experimental results, Tinker and Prince are now using Harrington's solution in the preparation of the patient's skin, applying it with friction for about two and a half minutes and sponging off with alcohol. In this way they avoid sloppy, wet surroundings of patients during operation. So far their results have been entirely satisfactory. Experience shows that the skin of some hands suffers from frequent long-continued applications of Harrington's solution; therefore in the preparation of their hands, Tinker and Prince continue to rely on the old time-consuming scrub, immersion in bichlorid of mercury solution, and a final cleansing in alcohol. From laboratory tests carried out during the past seven years, they know this to be efficient for any and all forms of bacterial life.

6. **Congenital Stenosis of Ureter.**—Eisendrath reports one personal case. A boy of 14, with no venereal infection or other previous illness, had sudden onset of all left-sided abdominal inflammatory signs. A sausage-shaped soft mass felt through the abdominal wall was shown to be the ureter dilated to the size of a small gut. Dilatation ended abruptly about 1½ inches above the bladder. The ureter distal to this point felt

hard and cord-like, but admitted a ureteral catheter. There were evidences of infection around the dilated portion. Eisendrath removed the latter, and a kidney showing marked evidences of infection and a moderate degree of hydronephrosis. After a careful study of the operative findings and consideration of the age of the patient and absence of any other source of ureteral obstruction, Eisendrath concluded that the stenosis of the lower ureter with subsequent dilatation of that portion above it, must have been present for many years, and could be best explained as of congenital origin.

8. **Placenta Prævia.**—A very detailed statistical study of 10,600 cases was made by McDonald and his findings are recorded *in extenso* in this paper.

10. **Pyloric Stenosis in Infancy.**—Eleven cases in which Richter personally operated, are here recorded. He has been doing the typical posterior operation, without any special modification in the technic, except in the use of suture material. He has always felt that surgeons are commonly in the habit of using suture and ligature material of a much heavier kind than is necessary or desirable for the purpose. In his gastro-enterostomies Richter is using size "O" or "A" silk, of the kind bought in the dry goods stores, in a No. 10 cambric needle. It seemed to him that the peritoneal adhesions in his first case were caused by seepage due to the rather heavy suture material used, and which probably had the capillarity of a wick. Before returning the stomach to the abdominal cavity he introduces fluids into the jejunum by passing a tube into the stomach and on through the new anastomotic opening into the jejunum; by using a funnel the child may be given a valuable dose of water at once. The same maneuver may be carried out in doing a divulsion of the pylorus, the catheter being passed through the stomach and pylorus directly on into the jejunum, and left in situ for the first few feedings after operation. In a case of congenital obstruction of the duodenum, Richter carried out this maneuver after relieving the obstruction, and found it could be easily accomplished. To F. X. Walls belongs the credit for conceiving these two procedures.

13. Also published in the *Texas State Journal*, December, 1910; abstracted in THE JOURNAL, Jan. 7, 1911, p. 73.

17. **Treatment of Stump in Appendectomies.**—In Greeley's method the meso-appendix being taken care of in the usual way, the appendix itself is used as a handle, enough tension being exerted on it to hold the cecal extremity in view; a fine cambric needle, threaded with fine linen or catgut is passed through all the intestinal walls at the appendicular base, and emerges again at a point about one-third of the distance around the appendicular base. The needle is again inserted through the opening just made or at a point close to its recent exit to take a second and similar stitch. A third stitch of the same character brings the ligature out again at the point of original entrance or at a place adjacent thereto. It is a modified purse-string suture with this essential difference: the ligature lies either entirely or almost within the lumen of the appendicular base. The loops at the two points of emergence are held in forceps, the appendix is next crushed and amputated and inverted into the triangle formed by the ligature within its lumen. A slight tension on the ligature at the three points of emergence renders this step easy. The tucker still holding the stump inverted, the ligature loops are gently loosened and the free ends tied. The stump is inverted within the bowel, and it is ligated. A second row of Lembert sutures insures strength and covers any raw surfaces left at the meso-appendicular field of operation.

Ohio State Medical Journal, Columbus

June

19 Dangers and Duties of the Hour. H. A. Hare, Philadelphia.
20 Some Pathologic and Surgical Considerations of Exophthalmic Goiter. A. Crotti, Columbus.
21 Cancer of Breast. W. E. Savage, Cincinnati.
22 Breech Presentations, with Special Reference to Mechanical Advantages of Elastic Bag in Their Management. W. Gillespie, Cincinnati.
23 Prostatectomy. E. O. Smith, Cincinnati.
24 Case Illustrating Importance of Early Recognition of Non-Inflammatory Glaucoma. J. E. Brown, Columbus.
25 Proportion in Practice of Oculist. L. K. Baker, Cleveland.

Bulletin of the American Academy of Medicine, Easton, Pa.

June

26 *The Hospital as a Factor in Training of Medical Students. F. F. Dow, Rochester, N. Y.
27 *Educational Value of Hospital Training for Medical Students. J. L. Heffron, Syracuse, N. Y.
28 Relation of the Hospital to the Community. C. W. Pardee, Buffalo.
29 *The Hospital as an Educator of the General Profession. E. B. Heckel, Pittsburg.
30 Importance of General Hospital in Education of Profession and Public. E. A. Vander Veer, Albany.

26. **Hospital as Factor in Training of Medical Students.**—Dow ventures to predict that the day will come when the degree of doctor of medicine and license to practice will not be granted by the state without at least one or more years of hospital student internship.

27. **Educational Value of Hospital Training for Medical Students.**—It is emphasized by Heffron that the ideal condition for hospital training for medical students is for the college to have its own hospital, and to have professors of general medicine and of general surgery who shall devote their entire time to clinical instruction in the hospital and who are not obliged to resort to outside practice for the support of their families. The educational value of hospital training for medical students, therefore, depends entirely on the way such training is carried out. The genius of clinical teachers must be depended on to bring their methods up to the standard set by their confrères in the subjects on which the science and art of medicine are founded.

29. **The Hospital as Educator of General Profession.**—The hospital has a catalytic action or influence on the general profession, says Heckel. There is a certain undefinable something in the very atmosphere which is always lacking in a community not blessed with a hospital. The presence of a hospital in a community is always reflected in the general profession, which is more wide-awake, up-to-date, more observing, more studious, a better profession. It may be impossible to point out any one real educational value, yet it is there. If it does nothing else it compels the men who do work there to do their best, because their work is more or less open to inspection and their results the topic of conversation and criticism by the general profession. Heckel says further that there should be a closer intimacy between the hospital and the general profession in order to have the hospital fulfil its greatest function.

Journal of the Arkansas Medical Society, Little Rock

May

31 Brain Syphilis. J. H. Chesnutt, Hot Springs.
32 Exophthalmic Goiter. H. H. Kirby, Little Rock.
33 *Wassermann Reaction. M. F. Mount, Hot Springs.
34 Psoriasis—Diagnosis and Treatment. W. Frick, Kansas City, Mo.
35 Acute and Chronic Cholecystitis. J. M. Smith, Hot Springs.

33. Abstracted in THE JOURNAL, June 11, 1910, p. 1992.

Journal of Biological Chemistry, Baltimore

June

36 New Decomposition Product of Keratin Which Gives Millon's Reaction. R. A. Gortner, Washington, D. C.
37 Creatin and Creatinin Metabolism in Dogs with Eck Fistula. N. B. Foster and H. L. Fisher, New York.
38 *Presence of Iodin in Human Hypophysis. W. Denis.
39 Oxidation of Amino-Acids. W. Denis.
40 Action of Gastro-Intestinal Juices on Nucleic Acids. P. A. Levene and F. Medigreceanu, New York.
41 Nucleases. P. A. Levene and F. Medigreceanu, New York.
42 *Process of Acid Excretion. L. J. Henderson, Boston.
43 Products of Hydrolysis of Wheat Gliadin. T. B. Osborne and H. H. Guest, New Haven, Conn.

38. **Iodin in Human Hypophysis.**—Twenty-one human pituitary bodies which had been kept in absolute alcohol for several months before use, were dried, the alcohol in which they had been preserved evaporated to dryness in the presence of a small amount of sodium hydrate, and the residue so obtained fused with the dried tissues. Sixteen pituitaries taken from patients who had received no iodids before death had, when dried, a total weight of 1.50 gm. and on fusion

gave no trace of iodin. From five hypophyses obtained from the bodies of individuals who had received iodids before death, which had a total weight, when dry, of 0.49 gm., Denis could also obtain no trace of iodin. He was unable to obtain any data as to how long before death the last dose of iodids was administered to the patients from whom these pituitaries were taken.

42. **Process of Acid Excretion.**—Henderson believes that the preservation of the normal alkalinity of the body is due, in great measure, to but two independent factors, excretion of ammonia and excretion of phosphates. The elaboration of ammonia and the presence of phosphoric acid as an end-product of metabolism makes possible the excretion of acid; regulation of ammonia production and of the ratio of the acid to the alkaline phosphates of urine are the means of regulating the acid secretion.

Interstate Medical Journal, St. Louis

June

44 The Electrocardiogram and Changes in Volume of Heart. A. D. Hirschfelder, Baltimore.
45 Chronic Endocarditis. J. G. Adami, Montreal.
46 Displacements of Heart. F. M. Pottenger, Monrovia, Cal.
47 Use of Roentgen-Rays for Examining the Heart. F. M. Groedel, Bad Nauheim, Germany.
48 Treatment of Chronic Disease in Childhood. I. A. Abt, Chicago.
49 Hydrotherapeutic Treatment of Heart Disease. J. M. Swan, Watkins, N. Y.
50 Tonsils and Heart Disease. A. H. Beifeld, Chicago.
51 Newer Heart Remedies. W. F. Boos and C. H. Lawrence, Boston.
52 Arteriosclerotic Changes in Abdominal Vessels. W. W. Hamburger, Chicago.

Cleveland Medical Journal

June

53 Ascites in Typhoid. A. McPhedran Toronto.
54 Trifacial Neuralgia. F. E. Bunts, Cleveland.
55 *Extra-Uterine Pregnancy at Full Term with Autopsy Eighteen Years Later. N. S. Scott, Cleveland.
56 *Michel's Clamps for Closing the Skin Incision. H. Robb, Cleveland.
57 Retropositions of the Uterus in Which Anterior Replacement Is Contra-Indicated. C. D. Williams, Cleveland.
58 Technic of Radical Mastoid Operations. W. H. Tuckerman, Cleveland.
59 Coagulation of Lymph in the Semicircular Canals. D. A. Prendergast, Cleveland.
60 Fibroid of Nasopharynx. L. A. Tripp, Cleveland.

55. **Extra-Uterine Pregnancy.**—Scott's case illustrates the fact that an extra-uterine pregnancy, after going to full term, may continue to harass the patient even for eighteen years; that it is a constant source of danger and ultimately proves fatal by the inflammatory involvement of important organs. It demonstrates the fact that the fetus which has lived the full nine months does not necessarily die at the time of the false labor but may live for at least ten days longer. The patient became pregnant in the fall of 1891; she noticed nothing of especial significance during the pregnancy, although she did have considerable pain during the early months. At the end of the nine months, labor pains came on and lasted two days, when after the extrusion of a small amount of tissue or clots from the uterus, they ceased. A few days after the cessation of the labor pains, Scott was called in consultation. The fetus was easily palpable and at this time the motions were quite vigorous. The heart-beats were distinct and could easily be made out the last time he saw her, ten days after the pseudo-labor. A diagnosis of a left-sided extra-uterine pregnancy, with a living fetus was made, and an immediate operation advised but refused.

In 1910, Scott made a post mortem on the widow of an old soldier and was surprised to find that she was the woman previously mentioned, whom he had not seen for eighteen years. On opening the abdomen the organs in the upper part of the cavity were apparently normal, but the pelvis was entirely sealed off by firmly organized lymph. No trace of any of the pelvic organs could be made out; all were apparently covered over. Into this mass dipped the rectum and to it the omentum was universally adherent; there were slight intestinal adhesions, with the exception of those of the rectum, and these did not interfere with the functions of the small intestines. The uterus was found to be to the right; the bladder was thick-walled, inflamed and contained about 2 ounces of turbid urine. To the left of the uterus was a cavity containing a quart or more of fetid pus and a mass of offensive material judged to be the remains of the fetus, although it did not contain any bones. Leading from this cavity to the rectum was a large, oval opening, ½ of an inch wide by 1 inch long, with a thick, firm margin. From this fistulous opening to the anus the rectum was intensely inflamed; from the fistula upward the rectum was also inflamed for a considerable distance, but slightly, when compared with the condition below the fistula. The kidneys were the seat of Bright's disease, which was the cause of death and which had been due to an ascending infection from the bladder. In the vagina was a large inflamed fibroid, having its origin in the posterior lip of the cervix, This was a condition which had arisen since the time Scott saw her when living. From the post-mortem examination it was evident that she had had a left-sided abscess which had ulcerated into the rectum and from which the excess of discharge could flow into the rectum; and that through this the fetus was discharged piecemeal when it disintegrated as a result of the septic process. There was present a severe cystitis, proctitis and nephritis. A plastic exudate entirely covered the pelvic organs, making adhesions between them and the neighboring loops of intestines and omentum.

56. **Michel's Clamps for Closing Skin Incision.**—Robb's results in the 182 cases in which he has used the clamps are, on the whole, satisfactory. The total number of incisions healed by first intention was 112, or 78 per cent. Sixteen of these, however, showed a slight amount of serum around one or two clamps. There were seventeen incisions showing pus around one or two clamps, or 12 per cent., and fifteen incisions showing pus and serum around one or two clamps, or 10 per cent. There were, in all, twelve cases showing pus or pus and serum which was sterile, or 8.3 per cent.

Medical Herald, Kansas City, Mo.

June

61 One Hundred Cases of Syphilis Treated with Salvarsan. E. D. Holland, Hot Springs.
62 Use of Roentgen-Ray After Operation. R. D. Mason, Omaha, Neb.
63 Fracture of Fibular Malleolus. E. H. Skinner, Kansas City.
64 Fractures. J. P. Lord, Omaha, Neb.
65 Delirium Following Chloroform Habit. S. G. Burnett, Kansas City.
66 Tetanus and Its Relation to Fourth-of-July Accidents. W. L. Gist, Kansas City.
67 Simple and Inexpensive Apparatus for Intravenous Injection of Salvarsan. E. L. Stewart, Kansas City.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

June

68 *Whitehead Operation for Hemorrhoids. A. McGlannan, Baltimore.
69 *Thyroid Heart or Exophthalmic Goiter. A. G. Brown, Richmond.

68. **Whitehead Operation for Hemorrhoids.**—McGlannan favors this operation and reports very excellent results from its use. He has departed from Whitehead's dicta in some particulars. For instance, instead of using a belladonna suppository, he uses an opium and hyoscyamus suppository. A rubber tube wrapped with gauze and lubricated was used in certain of the cases because of oozing. This plug is not mentioned by Whitehead. McGlannan says that the patients were made decidedly more uncomfortable by its use, and that its value as a hemostatic is slight. The most persistent vesical disturbances in his series occurred in a patient who wore the plug for four days and required the use of the catheter seven times during this period. With the removal of the plug, voluntary voiding returned. He has had no recurrence and no strictures. In two cases only was there a failure of primary union, both in old people with markedly sclerosed arteries. In one of these patients the thrombosed and sclerotic branches of the artery were noted at the operation. Two patients had fecal incontinence lasting six days and two weeks respectively. At the present time both have perfect control. He has had no postoperative pruritus. Urinary retention requiring catheterization occurred in ten cases; four patients were catheterized at once; the longest time that this assistance was required was seven times in four days. The

average was three times in twenty-four hours, patients voiding voluntarily thereafter.

For comparison, the postoperative record of five hospital cases, operated on by clamp and cautery (three) and by ligature (two) shows that four of these five patients required catheterization, the longest time being three days, with an average practically the same as that given above.

As an index of the postoperative discomfort, McGlannan has studied the amount of morphin or other anodyne given. In the Whitehead cases, the average quantity was 2/5 grain of morphin, the largest was 1 grain given in three doses during two days. The longest time during which the drug was required was two days. None of these patients had any other anodyne. In the other series the average dose was 1 grain, the average time two and one-half days, the shortest, two. Two of the Whitehead cases did not require any postoperative anodyne. In his most recent cases, McGlannan has inserted a suppository of ¼ grain extract hyoscyamus and ½ grain powdered opium into the rectum before applying the dressings. This suppository, suggested by Whitehead in his original paper, has proved very valuable in lessening the amount of postoperative pain and the vesical incompetence.

69. **Thyroid Heart.**—The chief purpose of Brown's paper is to point out that there are conditions perfectly amenable to medical treatment due to a state of hyperthyroidism and hypothyroidism, and that the practitioner must be more alert to interpret that group of more or less indefinite but yet marked symptoms characterizing these cases before the gross pathologic malformation of the thyroid, protruding eyeballs and enlarged (frequent) heart occur.

Northwest Medicine, Seattle, Wash.

June

70 Anterior Poliomyelitis. R. L. Gillespie, Portland, Ore.
71 Infantile Paralysis. C. F. Eikenbary, Spokane, Wash.
72 Surgical Treatment of Infantile Paralysis. F. J. Fassett, Seattle, Wash.
73 Treatment of Acute Poliomyelitis. J. C. Schapps, Butte, Mont.
74 Cesarean Section—Its Present Indications. G. R. Kunz, Tacoma, Wash.
75 Gastric Tetany. J. C. O'Day, Portland, Ore.
76 Significance of Gastric Hypersecretion and Pyloric Spasm. K. Winslow, Seattle, Wash.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

June

77 *Cause and Significance of Tubal Rupture in Extra-Uterine Pregnancy. C. W. Barrett, Chicago.
78 *Unfavorable Influence of Pregnancy on Chronic Progressive Deafness. S. M. Brickner, New York.
79 *Influence of the Automobile on Obstetric and Gynecologic Conditions. J. C. Edgar, New York.
80 *Complete Procidentia in Nulliparous Woman. Lack of Physical and Mental Development. C. O. Kepler, Boston.
81 Cesarean Section for Impossible Labor Due to a Dermoid Cyst. W. P. Manton, Detroit.
82 *Toleration of Corset. R. L. Dickinson, Brooklyn, N. Y.
83 Appendix and Right Ovary and Tube. C. R. Hyde, Brooklyn, N. Y.
84 Diagnostic Significance of Disturbances of Consciousness in Childhood. L. Kerr, New York.
85 Hemiplegia Occurring During Pertussis. L. Kerr, New York.
86 Sequestrum of Labyrinth. F. T. Hopkins, New York.

77. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1132.

78. **Pregnancy and Chronic Progressive Deafness.**—Two cases of chronic progressive deafness, both showing marked deterioration during pregnancy, were the incentive which led Brickner to look into this matter. He found that the influence of pregnancy on women who are suffering from otosclerosis or chronic progressive deafness is a deleterious one, although the pathologic process is by no means clear. The deafness increases immediately on the advent of pregnancy, grows worse during gestation and remains permanently worse after delivery than it was before pregnancy began. Repeated pregnancies have the effect of rendering the hearing progressively worse. The interruption of pregnancy may preserve the hearing existing at any time; but it may accomplish no more than this, the hearing may subsequently continue to deteriorate. The obstetric treatment is the induction of abortion early in pregnancy, after it has been established unquestionably that the pregnancy is causing the hearing to become diminished. The right to render these women sterile is one that depends on individual cases and is a debatable question.

79. **Influence of the Automobile on Obstetric and Gynecologic Conditions.**—It is Edgar's belief that the unfavorable influence of the automobile on pregnancy has been somewhat exaggerated, and that undoubtedly the motor car is in many instances unfairly set down as a cause of a given abortion or miscarriage. He believes that the middle third of pregnancy is more liable to be interrupted from this cause than any other time. Several cases under his observation that appeared to be undoubtedly due to the automobile took place at the fourth, sixth and a half and eighth months, respectively. Certain women appear to be especially susceptible to the abortifacient influence of the automobile, and certain conditions within the pelvis appear to favor this influence. Patients have come under Edgar's observation who have had repeated miscarriages, which apparently were predisposed to, at least, by motoring. There is one type in particular, he believes, especially prone to the unfavorable influence of the vibration and the circulatory changes induced by excessive motoring. It is found in women with relaxed uterine supports not confined alone to multigravidæ, but frequently seen in primigravidæ, in whom even in the middle third of pregnancy there is a tendency to procidentia, and even after the uterus rises well out of the pelvis the presenting part hangs low. These are the cases in which, in primigravidæ and occasionally in multigravidæ, the head engages in the pelvis and descends well down toward the pelvic floor in advance of the fortieth week. Excessive motoring in these cases is liable to interrupt pregnancy. With limitations regarding speed and fatigue, Edgar even permits patients who have suffered from threatened abortion to use the automobile subsequently. In threatened miscarriage presumably caused by excessive motoring, his belief is that low implantation of the placenta is an important factor. On the whole the effect of automobiling seems to be either a negative or wholesome one.

80. **Complete Procidentia in Nulliparous Woman.**—Kepler believes that complete procidentia is more frequent in the nulliparous than has been formerly supposed. Approximately seventy cases have been reported in a scattering way in the literature, and the author has eighty certain cases that have been given him by correspondents, also one of his own and some uncertain ones without details that have been spoken of by others. It is usually acquired from congenital causes in infancy or youth but may be acquired later without any discoverable congenital defects. It is a true hernia of the sacropubic variety, generally beginning in Douglas' pouch by intestinal descent from intra-abdominal pressure. It is usually associated with congenital physical stigmata or degenerations. In a large proportion of cases it is found to be associated with mental perversions ranging all the way from the mildest hysteria to complete imbecility and idiocy. It can be treated by any one of a half-dozen or more operative procedures, depending on the degree and nature of the prolapse and the judgment of the operator.

82. **Toleration of the Corset.**—Corsets are classed by Dickinson as corrective, neutral and harmful. He maintains that the average corset still shows constriction of the waist line of the form if not of the degree of the hour-glass design. His observations contradict the claim that low abdominal girdling and "lifting" have taken the place of the waist-line pressure. Tests show that in two-thirds of the cases there was greater pressure at the waist than lower on the abdomen, one-third being equal. In thin women neutral conditions were general. Pressures on the lower ribs still ran high. In one-half the cases all pressures ran high. The spring or gap of the corset when unhooked gives an excellent practical measure of the amount of pressure exerted, 2½ inches being the most that should be tolerated. Comparison of the girth over the corset with that measured around the undershirt is worthless as an index of constriction. Interior tests showed little effect on increase in vaginal pressures in corseted women whose abdominal walls were firm, but they indicate a marked rise in intrapelvic pressure from exertion in corseted women whose

muscles are flabby and interior supports relaxed. The tight corset harms vigorous women little, weaker women greatly. Among postures one-half were found defective, one-third good. Alteration in or change of the corset often brought about marked improvement in attitude. A simple test consists in standing a patient with heels against a mark on the floor, and her side to the wall and noting the location of the scapula and buttock with and without the corset and any change for the better or worse in the center of gravity and in uprightness. Certain types of body form are particularly susceptible to defective corseting, such as the individual with the long and slender trunk. A very exhaustive study of the corset question was made by Dickinson.

New York State Journal of Medicine

June

87 *Therapeutics of Salvarsan. S. J. Meltzer, New York.
88 *Indications for Salvarsan in Syphilis. S. Pollitzer, New York.
89 *Analysis of Clinical and Serologic Results Obtained in Treatment of 175 Cases of Syphilis with Salvarsan. J. A. Fordyce, New York.
90 *Action of Salvarsan on Wassermann Reaction. H. Fox, New York.
91 *Few Plain Truths About Salvarsan. W. S. Gotthelf, New York.
92 *Technic and Methods of Administration of Salvarsan. H. F. Swift, New York.
93 *By-Effects of Salvarsan. J. M. Winfield, Brooklyn.
94 New Operating Pavilion for Thoracic Surgery at German Hospital, New York. W. Meyer, New York.
95 Diagnosis and Treatment of Meningitis in Children. T. W. Clarke, Utica.
96 Secret Division of Fees. J. Brettauer, New York.
97 Two Cases of Prostatic Hypertrophy Successfully Treated with Roentgen-Ray and High-Frequency Currents. S. Tousey, New York.

87, 88, 89, 90, 91, 92 and 93. Abstracted in THE JOURNAL, May 6, 1911, pp. 1353 and 1354.

New York Medical Journal

June

98 Simple, Rapid and Complete Reduction of Deformity in Fixed Lateral Curvature of the Spine. E. G. Abbott, Portland, Maine.
99 *Endobronchial Treatment of Asthma. W. Freudenthal, New York.
100 *Operation for Relief of Tuberculous Peritonitis. A. Judd, New York.
101 *Injection of Magnesium Sulphate for Acute Articular Rheumatism. A. B. Jackson, Philadelphia.
102 Diagnosis of Tuberculosis in Its Earlier and More Chronic Form. O. F. Kunkel, Bells Camp, Pa.
103 Contagiousness of Pulmonary Tuberculosis. A. V. Meigs, Philadelphia.
104 Guidance and Protection of Children by the State. J. Rosenberg, New York.
105 In Memoriam: Christian A. Herter. J.C. Hemmeter, Baltimore.

99. **Endobronchial Treatment of Asthma.**—Out of a total of eleven asthma patients treated endobronchially by Freudenthal eight are considered as cured, three were greatly improved, and two showed no benefit whatsoever. The bronchoscope was used by Freudenthal not only for treatment purposes but to note the pathology present. In one case there was apparently a constriction of the trachea, which could not be overcome at the first bronchoscopy. The whole lumen was swollen and closed and could not be dilated by cocain. Freudenthal believes that this was one of those cases of spasm of the trachea described by Bruegelmann, which he considers to be due to an irritation of the respiratory center. In the bronchi such a spasm could be seen more often, but it generally disappeared after the application of cocain. This could be observed endoscopically, not alone by the opening up of the bronchus, but by the action of the muscular apparatus afterward. The ulceration found in one case has been described previously, and, so far, is the only one on record. In all cases he used bronchoscopy under local anesthesia. He invariably kept the patient in an upright position. These sittings were made in the morning, on an empty stomach whenever possible. Some pain always followed bronchoscopy. In some cases it lasted three or four days, in others only a few hours.

100. **Operation for Tuberculous Peritonitis.**—The operation done by Judd consists in an incision 3 to 4 inches in length through the sheath of the right rectus muscle. On examination of the viscera and parietal peritoneum, disclosing the diagnosis of tuberculous peritonitis, the patient is eviscerated so far as possible. The intestines being caught in a nest of hot, moist towels, are thoroughly washed with a solution of 50 per cent. commercial hydrogen peroxid. The abdominal cavity is then thoroughly flushed with the same solution, after which it is washed out with a normal saline solution equally thoroughly, as are also the intestines. These are then replaced in their proper position within the peritoneal cavity, and the same is closed with three layers of sutures. Some twenty-two patients have been operated on by Judd within the past four or five years, nineteen adults and three children. In nearly all cases the primary improvement was very marked. In some, the improvement was only temporary; in others a second operation was required to obtain the ultimate result. In only a few, four in number, and these in an advanced stage of the disease where the lungs or other organs were also considerably involved, was no improvement noticed.

101. **Magnesium Sulphate in Acute Articular Rheumatism.**—Five cases of articular rheumatism are reported by Jackson in which he had excellent results from the intramuscular injections of magnesium sulphate. The discovery of this active therapeutic agent in rheumatism was the result of a last resort. A number of other cases of rheumatism were treated with magnesium sulphate by injections, local applications and internally. So far, the results in all have been excellent. Jackson gives the salicylates a chance first, but, when they fail to give results, he employs the magnesium sulphate treatment. The only reason he has for doing this is that many patients, especially nervous women, will object to the injections until after other measures fail. No pain, however, follows the injection, because the drug acts as a local anesthetic. He has not yet noted any unfavorable signs from its use, despite the fact that we are told that magnesium sulphate injected into the circulation is a cardiac and a respiratory depressant. The technic is simple. Jackson employs an all glass Luer syringe of 5 c.c. capacity, observing all aseptic precautions, and selecting any muscle that is handy as the point of injection. At present he is using a 25 per cent. sterilized solution and injecting 4 c.c. into adults. Up to this time he has treated no children, but he says he should use it without hesitancy in the proportion of 1 c.c. of the 25 per cent. solution to each 25 pounds of body weight. In some cases the injections produce active purgation, and in others they have apparently no effect.

Iowa Medical Journal, Des Moines

June

106 Headache from Surgical Point of View. J. F. Percy, Galesburg, Ill.
107 Constitutional Headache. William H. Rendleman, Davenport.
108 Headaches as Related to the Eye and Nose. G. F. Harkness, Davenport.
109 Pneumococcus Meningitis with Deferred Pulmonary Symptoms. F. A. Ely, Des Moines.
110 Early Diagnosis of Tuberculosis. H. V. Scarborough, Oakdale.
111 Leukocyte Count in Diagnosis of Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
112 Infantile Paralysis. J. P. Dougherty, Sioux City.

Canadian Medical Association Journal, Toronto

June

113 *Present Status of Conservative Gynecology. W. T. Gibb.
114 *Treatment of Typhoid by Vaccines. J. C. Meakins and L. S. Foster, Montreal.
115 Typhoid in the Winnipeg General Hospital. S. J. S. Peirce, Winnipeg.
116 *An Unclassified Tropical Fever. S. McGibbon, Calabacillas, Chih., Mexico.
117 Obliteration of Thoracic Cavities. E. M. von Eberts and W. H. P. Hill, Montreal.

113. **Conservative Gynecology.**—Gibb is of the opinion that gynecologic conservatism should, in the first place, imply the avoidance of operative interference whenever it is possible, and that, when surgical intervention becomes imperative, the preservation of an organ, or a portion of one, which may be free from disease and able to functionate, and whose integrity is so important to the woman, should be looked on as the height of gynecologic skill. The conclusions he has reached in the treatment of gynecologic cases are: Treat the case expectantly as long as there is the slightest chance for recovery. When operation is imperative save all the organs or parts of organs possible. A conservative operation is not necessarily an incomplete operation. Remove all the organs,

or parts of organs, that are so diseased that to save them would necessarily expose the patient to the dangers of a second operation. Except in extreme cases, or in those near or past the menopause, save the patient her function of ovulation, or, at least, leave her some part of her ovarian tissue to avoid the psychic disturbances which follow the total ablation of these organs.

114. **Treatment of Typhoid by Vaccines.**—Forty-one typhoid patients were vaccinated by Meakins and Foster. The vaccines were prepared from organisms isolated from the blood of typhoid patients. Autogenous vaccines were not used, although this would be a marked improvement and could be done if the cases were received early enough and vaccination became a routine in the treatment of typhoid. One c.c. contained ten hundred million typhoid bacilli, and was usually the initial dose. This is greatly in excess of the doses used by other workers, but in no case did any ill result follow the use of this amount. In every case a large erythematous patch developed around the point of inoculation, accompanied by pain and tenderness of a slight degree. In one case only was there a chill. These symptoms began to subside after twenty-four hours, and entirely disappeared after forty-eight hours. The second dose was usually fifteen hundred million, and the third dose was either the same or two thousand million. After the second or third inoculation little or no local reaction occurred. In no case was there any exacerbation of the typhoidal symptoms, but in twenty-four hours a distinct improvement was manifested, either in the general condition of the patient or the chart, and frequently in both. The average length of fever in the uninoculated was thirty-seven days, while in the inoculated it was twenty-eight days, or a diminution of nine days.

Many of the patients did not reach the hospital until late in the disease, as on the twenty-fifth, twenty-eighth, thirtieth, and ninety-fifth day respectively, while in other cases the inoculation was delayed on account of the absence of a positive Widal reaction. The authors claim that it is hardly fair, therefore, to judge the value of the vaccination as to its influence on the duration of the fever by these gross figures. However, if one analyzes the cases of patients vaccinated within the first two weeks, he finds the average time of fever to be twenty days, or a shortening of the course of the disease by two weeks. Of seventeen cases vaccinated during the first two weeks only three required a second inoculation, and the average duration of the disease in those cases receiving one dose was only seventeen days. A much more striking influence of the action of the vaccine is apparent when an estimate is made of the number of days of temperature after the vaccination was begun. Twenty-six patients received one dose, and the temperature returned to normal on an average of five days later. Eleven received two inoculations, and the average length of time of fever after the first injection was twelve days, while after the second injection it was four. The average interval between the inoculations was eight days. In the cases which received two injections, it was a constant observation that there was marked improvement in the condition of the patient after the first inoculation, while the second dose seemed to produce a crisis in 50 per cent. of the cases. The beneficial influence of the vaccines on the toxic symptoms was almost constant.

On analyzing these cases as to the occurrence of complications, most striking results are obtained. In the unvaccinated cases, complications of a severe character, namely, hemorrhage, perforation, cholecystitis, otitis media, periostitis and phlebitis, developed in 42 per cent., while in the vaccinated cases complications occurred in only 5 per cent. Relapse occurred in 13 per cent. of the untreated, and in 2.4 per cent. of the treated, while the mortality was 10 per cent. in the unvaccinated, and 2.4 per cent. in the vaccinated.

116. **An Unclassified Tropical Fever.**—Attention is directed by McGibbon to the existence in Mexico of a fever to which no reference is made in standard medical works. The disease appears to be at times quite contagious, usually affects adults, and is of very sudden onset, resembling in many respects remittent malaria. Soon after the onset the patient is prostrated, and almost invariably takes to bed. The temperature rapidly mounts to 39 or 39.5 C., or even 40 C., and is accompanied by occasional chills, severe headache and backache and frequently by pains in the limbs and other parts of the body. It is a non-exanthematous disease and the fever persists for a very variable period, varying from two to ten days, but usually lasting from four to seven days. It is not infrequently of the reverse type, and falls by a crisis as sudden as the onset. An uneventful convalescence is immediately established, and within two or three days the patient is usually well. The mortality from the disease is very low and complications of a serious nature are very rare. McGibbon has witnessed but one fatal termination in about two hundred cases. Gastro-intestinal symptoms are few and variable, consisting of very marked anorexia and occasional vomiting. Mild, toxic diarrhea is observed at times, and constipation with variable abdominal pains is frequently present. In patients suffering from tenia, the evacuation of a large part of the parasite not infrequently takes place, though not so often as in malaria. The nervous system is usually more seriously affected than is generally the case in malaria. There seems to be a greater tendency to delirium, and the patient suffers more mental anxiety, usually believing himself to be suffering from a very serious illness. The skin is hot and dry in the morning, moist in the afternoon, and perspiration is usually free before the crisis. Sweat rashes, such as miliaria and sudamen, are seen, and a very few cases of toxic erythema have been observed extending over the anterior thoracic region and, in one case, to the malar regions of the face. No jaundice or yellow sclerotics have been noticed. The respiratory system shows very few symptoms or physical signs. A very mild cough, due to slight catarrhal bronchitis, is present in a fair proportion of cases. Bronchopneumonia was the cause of death in the one fatal case that has come under McGibbon's observation. Nothing of interest was noted in the vascular system.

Kentucky Medical Journal, Bowling Green

June 15

118 Old and New Arts in Parturition. W. B. Doherty, Louisville.
119 Cases of Stone Impacted in Urethra in Male Children, with Rupture and Extravasation of Urine. W. C. Dugan, Louisville.
120 Ocular Tumors. A. O. Pfingst, Louisville.
121 Double Capsulation for Anuria and Ventral Hernia. J. H. Peak, Louisville.
122 Mediastinal Tumor, Gumma or Aneurysm? W. C. Dugan, Louisville.
123 Leukoplakia Buccalis. M. L. Ravitch, Louisville.
124 Case of Neuritis. S. S. Prather, Louisville.
125 Parovarian Cyst Weighing Forty-Eight and a Half Pounds. A. M. Vance, Louisville.
126 Submucous Fibroid of Uterus. J. W. Price, Louisville.

Journal of American Public Health Association, Columbus, O.

May

127 *Experiments on Removal of Oysters from Polluted to Unpolluted Waters. E. B. Phelps, New York.
128 The Prevention of Blindness. S. E. Eliot.
129 American Civic Association and Its Relation to Public Health. R. B. Watrous.
130 Child Labor and Public Health. E. N. Clopper.
131 American Medical Association and Its Relation to Public Health Work. William C. Woodward, Washington, D. C.
132 National Housing Association and Its Relation to Public Health. L. Veiller, New York.
133 National Association for Study and Prevention of Tuberculosis. L. Farrand, New York.
134 History and Chemistry of Disinfectants. William Dreyfus, New York.
135 Testing of Liquid Disinfectants. H. Albert, Iowa City.
136 *Quarantine or Isolation in Diphtheria? J. Roberts, Hamilton, Ontario.
137 Registration of Births. F. D. Beagle, New York.
138 Modern Board of Health Methods in a Small Town. C. K. Blanchard, Wellesley, Mass.
139 Modern Board of Health Methods in Small Cities. S. M. Gunn, Boston.
140 Relation of Illuminating Gas to Public Health. W. T. Sedgwick and F. Schneider, Boston.

127. **Removal of Oysters from Polluted to Unpolluted Waters.**—In order to determine, if possible, the minimum time that must elapse after oysters are removed from sources that are seriously polluted to clean waters, before they are freed from all evidences of pollution and therefore safe for use, certain experiments were undertaken by Phelps in cooperation with an oyster producer. It was obvious from these

experiments that surely within four days, and possibly within a shorter period of time, a healthy oyster transplanted from polluted to clean waters will rid itself of the evidences of pollution, and Phelps says one may justly argue from this that the sewage material which is always associated with *B. coli*, and of which the latter is taken as an index, have also been eliminated.

136. Abstracted in THE JOURNAL, Sept. 24, 1911, p. 1137.

Lancet-Clinic, Cincinnati

June 24

141 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.
142 Some Trends in Medical Education. M. M. Fischer, Cincinnati.
143 Treating Symptoms. W. F. Waugh, Chicago.

Pennsylvania Medical Journal, Athens

June

144 Treatment of Stab Wounds of the Chest with Intratracheal Cannula for Use with Any Positive Pressure Apparatus. G. M. Dorrance, Philadelphia.
145 *Present Status of Psychotherapy. E. E. Mayer, Pittsburg.
146 *Traumatic Neurosis. J. L. Salinger, Philadelphia.
147 *Mental Disturbances Following Traumatism. A. Gordon, Philadelphia.
148 *Early Diagnosis of Pulmonary Tuberculosis. A. Stengel, Philadelphia.
149 *The Open-Air School. W. C. White, Pittsburg.
150 Double Choked Disk from Increased Intracranial Pressure. Congenital Absence of Both Inferior Recti Muscles. E. Stieren, Pittsburg.
151 Insanity in Pennsylvania. H. A. Davis, Altoona.
152 Report of the Tuberculosis Situation in Pennsylvania in 1909. J. B. Deacon, Philadelphia.

145, 146 and 147. Abstracted in THE JOURNAL, Nov. 5, 1911, p. 1672.

148 and 149. Abstracted in THE JOURNAL, Oct. 29, 1911, p. 1581.

Journal of the Delaware State Medical Society, Wilmington

June

153 Physical Examination of the Chest, with Special Reference to the Heart. W. Wertenbaker, New Castle.
154 Arteriosclerosis. H. F. Stubbs, Wilmington.

New Mexico Medical Journal, Las Cruces

June

155 Vertigo and Some of Its Causes. F. M. Smith.
156 Treatment of Ileocolitis. C. M. Mayes.
157 Diagnosis of Early Tuberculosis. L. A. Dickman, Clovis.
158 Preventing Spread of Tuberculosis. S. L. Burton, Albuquerque.
159 Symptomatic Treatment in Tuberculosis. C. T. Sands.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 17

1 Where Chemistry and Medicine Meet. A. E. Garrod.
2 *Toxemia of Pregnancy and Hemorrhage. R. Davies-Colley.
3 Preparation of Various Foodstuffs, Especially Wheat and Rice. E. S. Edie and G. C. E. Simpson.
4 Average Height and Weight of English School Children. A. W. Tuxford and R. A. Glegg.
5 Diagnostic Value of Rachicentesis. J. Rae.
6 *The Blood in Sympathetic Ophthalmia. C. P. Jones and S. H. Browning.
7 Bonesetting and Treatment of Painful Joints. F. Romer and L. E. Creasy.

2. **Toxemia of Pregnancy and Hemorrhage.**—Investigation of the records of a series of cases of toxemia of pregnancy at Guy's Hospital during the last eleven years has shown Dr. Davies-Colley that hemorrhage in one form or another is not a very infrequent symptom of the disease, and that in some cases it may be so great as to constitute its principal feature. To his mind, conclusive evidence is shown of the causal relationship between toxemia and this form of hemorrhage. A small group of cases occurred in which hemorrhage, not from the uterus, was so severe as to be a very great source of danger to the patient, and, so far as Dr. Davies-Colley could gather, no similar condition has hitherto been described in association with toxemia of pregnancy. The cases of hemorrhage fall into three groups. 1. Hemorrhage from the kidneys. Among the thirty-six eclampsia patients treated, hematuria was present in ten, and of these patients, six died—that is, 60 per cent.—while of the total number only eleven died, or 30.5 per cent. It is, therefore, clear that hematuria has a grave prognostic significance in eclampsia. II. Hemorrhage from the uterus. Thirteen patients with concealed accidental hemorrhage were treated, and of these eight, or 61.5 per cent., presented symptoms of what was taken to have been toxemia of pregnancy; surely more than could possibly be accounted for by coincidence. On the other hand, in thirty cases of external accidental hemorrhage, in only one were there signs of toxemia. III. Purpura, and hemorrhage from the mucous membranes. In these cases the hemorrhage was an obvious outward symptom of the disease, and of such an amount as greatly to increase the gravity of the condition, and in one case, at any rate, to be the principal cause of death. Three cases occurred, all of the patients being between the ages of 20 and 30. Two were primiparæ, and one was pregnant for the second time. Two of the patients died, while the third recovered only after being comatose for four days. The symptoms were those of an acute toxemia occurring in the later months of pregnancy, and consisted of persistent vomiting, which lasted for periods varying from four days to several weeks, followed by the more or less sudden onset of coma during or shortly after labor. The hemorrhage was from the stomach and intestines in all three cases, while in two cases purpura and hemorrhage from the gums also occurred. In all cases it was severe enough to cause profound anemia, while in one case it was undoubtedly the chief cause of death. From the presence of severe vomiting in each case, of jaundice in the patient who recovered, and of the very extensive changes in the livers of those who died, Dr. Davies-Colley says that it would appear that the toxemia was in the main hepatic in origin.

6. **Blood in Sympathetic Ophthalmia.**—From figures given by Jones and Browning it appears that in all cases the lymphocytes are increased in absolute number per cubic millimeter on an average for the nine cases studied by them of about 30 per cent., the range of increase varying from 2 per cent. to 42 per cent. The large mononuclear cells are increased in absolute numbers per cubic millimeter on an average for the nine cases of 170 per cent., the range of increase varying from 68 per cent. to 488 per cent. The polymorphonuclear leukocytes are in all cases diminished in absolute number per cubic millimeter on an average of about 30 per cent., the range of diminution varying from 10 per cent. to 51 per cent. This type of blood is found in protozoal infections. With this view it was desirable to exclude the possibility of syphilis, and in six cases Wassermann's test was applied, and in each instance gave a negative result.

The Lancet, London

June 17

8 Pyelography and Early Diagnosis of Dilatation of Kidney. J. W. T. Walker.
9 Vaccination in Regard to Life Assurance. W. H. Jalland.
10 Salvarsan in Syphilis. A. Fleming and L. Colebrook.
11 Post-Anesthetic Vomiting. J. D. Mortimer.
12 *The Causation of Infective Endocarditis. J. A. Venning.
13 Sanatoriums from Within. J. E. Esselmont.
14 *Case of Recurrent Carcinoma of Parotid Gland Treated with Coley's Fluid. E. R. Hunt.
15 Investigation of Certain Substances Used in Coloring Foods. S. Rideal.

12. **Causation of Infective Endocarditis.**—Venning says that if rheumatism is due to a streptococcus, and infective endocarditis, which is a septicemia, has from all statistics a close relation to rheumatism, it is, at any rate, possible that the diplococcus of rheumatism and the microorganism in some cases of infective endocarditis are of the same species. Venning undertook the examination of 100 cases to see whether by clinical and post-mortem examination there is any confirmation of the view that there is an added infective endocarditis. In 58 cases of the 100 there were old cardiac lesions, as shown by the necropsy. Of the remaining forty-two there was doubt in eight cases. In twenty-seven cases there was an infective focus from which it might reasonably be supposed that the septicemia arose. Of these twenty-seven cases there was a rheumatic history in seven and there were old cardiac lesions in ten. Of the remaining seventy-three there was a rheumatic history in fifty-two cases and old cardiac lesions in forty-eight, and in nine of the remainder it was

doubtful as regards old cardiac lesions. These figures bring out one point strongly. In the twenty-seven cases in which an infective focus was found, and which no one could reasonably call rheumatic in origin, there is a history of rheumatism in seven out of twenty-seven—i. e., 25.9 per cent.—while in the seventy-three in which no infective focus was found there was a rheumatic history in fifty-two cases—i. e., 71.2 per cent. Again, in these twenty-seven cases there were old cardiac lesions in ten—i. e., 37 per cent.—while in the remaining seventy-three they were present in forty-six—i. e., 63 per cent. To examine more closely the seventy-three cases in which there was no infective focus demonstrable, there was a rheumatic history in fifty-two out of the seventy-three cases—that is to say, there was a previous history of rheumatism, or the final illness commenced with rheumatism, taking as rheumatism a history of pain and swelling of joints, or endocarditis, or chorea. Of these fifty-two cases, the rheumatism passed, so far as one could judge, insensibly into infective endocarditis in thirty-two cases—i. e., 61.5 per cent. One point which is brought out by the history of these cases is that, though the patient may be apparently recovering from the attacks of rheumatism and may lose all pain in the joints, nevertheless from the after-history the endocarditis must have been progressing insidiously. Thus, there are in this series several examples of patients who were admitted for acute rheumatism and improved to such an extent as to leave the hospital, but who returned in the course of a month or two to die from infective endocarditis. The majority of these patients had suffered from rheumatism at some time previous to their final illness, and so on admission had signs of endocarditis, and post mortem the valves showed old-standing lesions. Venning points out that the causation of these cases is very varied, but the evidence adduced, both from the bacteriologic work of Poynton and Paine, and from that obtained by the study of this series of cases, is, Venning believes, in favor of the view held by Osler in 1885—namely, that infective endocarditis, supervening in the course of some particular disease as rheumatism or pneumonia, may be regarded as directly produced by the causes which have excited the original disease.

14. Coley's Fluid in Recurrent Carcinoma of Parotid.—A man, aged 54, had a large malignant growth in the right side of the neck, apparently originating in the right parotid. The history showed that twenty-five years previously he was operated on for a tumor in the neck. The tumor recurred thirteen years later and slowly became larger and more painful. In April, 1910, lymph-nodes were removed. These were closely connected with the parotid. It was considered impracticable to remove the whole growth. The report of a microscopic examination of the tissue removed stated that this was a very fibrous carcinoma of scirrhous type. There was no trace of any glandular structure of any kind. Apart from this tumor the patient's health had been good. The injections of Coley's fluid were begun and continued on alternate days in gradually increasing doses for two months, when the final injection of 7 ♏ was given. In all the patient had some nineteen injections. He gradually became weaker, ultimately passing into a semicomatose condition and expiring soon after. The following points are noteworthy: 1. The complete relief of pressure symptoms and the very marked relief of pain, which Hunt says can be attributed only to the action of the Coley's fluid in causing the sloughing away of the greater part of the tumor. The comparative freedom from pain is attested by the very few doses of sedative mixture which were taken by the patient, although he was always provided with the medicine and instructions were given that he should be allowed a dose whenever necessary. Although the injections were unsuccessful in effecting a cure, yet the relief afforded was very gratifying, and the patient's death was a comparatively peaceful and painless one, in place of the agony of slow suffocation which at one time seemed probable. 2. The low temperatures are interesting. In spite of steadily increased doses of the fluid, nothing like the reaction aimed at (103 F.) was obtained. 3. The case seems to show that in some cases of carcinoma Coley's fluid may have a marked action.

Glasgow Medical Journal

June

16 Roentgen-Ray Treatment of Ringworm of the Scalp. J. G. Graham.
17 Physical Methods in Treatment of Chronic Constipations, Sinusoidal Currents. T. D. Luke.
18 Case of Associated Cutaneous and Gastro-Intestinal Anthrax. G. B. Fleming and M. J. Stewart.

British Journal of Children's Diseases, London

June

19 *Relation of Nasal Obstruction to Articulatory Capacity. E. Jones.
20 Benign Cyst of the Tibia. H. A. Lediard.
21 Three Cases of Enlarged Thymus in Infants. R. Waterhouse.

19. Nasal Obstruction and Articulatory Capacity.—In his examination of the consonantal articulatory capacity of 700 children and its relationship to the degree of nasal obstruction existing, Jones found that in average school children (469 cases, 106,500 tests) the articulatory capacity for consonants varies with the degree of nasal obstruction. The dependence of the capacity on this factor is not very close, but is much more decided with boys than with girls. The incidence of nasal obstruction being equal in the two sexes, it would seem that a given degree of it produces, through partial deafness or in some other way, a more harmful effect on the articulatory capacity of boys than on that of girls. This is in harmony with the author's hypothesis, previously put forward, that hearing is more essential in the acquirement of speech with boys than with girls, the latter making use of a second channel of education, lip-reading, which is shut to boys. In children with gross articulatory defect or dyslalia (231 cases, 52,000 tests) no correlation whatever was found between the extent of this defect and the degree of nasal obstruction present. Investigation of a larger series might reveal a slight correlation, but nasal obstruction is evidently not an important cause of dyslalia in general, and any action it may have is readily obscured by that of more important factors.

Journal of Laryngology, Rhinology and Otology, London

June

22 Improved Technic of Thiersch Graft Following Radical Mastoid Operation. C. F. Welty.
23 Turbinal and Sinus Function. J. Adam.
24 Otosclerosis. G. Brühl.
25 Endothelioma of the Frontal Bone. N. Maclay.

Medical Press and Circular, London

June 7

26 Cause and Prevention of Decay of Teeth (to be continued). A. S. Dutton.
27 The Insurance-Against-Sickness Bill. R. R. Rentoul.
28 *Nature and Treatment of Chorea. C. F. Coombs.

June 14

29 Intestinal Obstruction. J. R. Morison.
30 *Seasickness and a Remedy. T. M. Kendall.
31 Cause and Prevention of Decay of Teeth (concluded). A. S. Dutton.
32 Lesions of the Vermiform Appendix and the Female Pelvic Organs. D. Duff.

28. Nature and Treatment of Chorea.—According to Coombs, chorea is an organic disease implicating the cells of the cortex cerebri, and those of the midbrain and pontomedullary nuclei in a less severe degree; that it is due to the action of rheumatic toxins on these cells; that all parts of the cortex suffer equally, and therefore the disease should not be regarded as one of motion only; and that, in spite of its extraordinary persistence, due to repetition of active phases, the general tendency is toward recovery. The motor symptoms are partly due to loss of inhibition, partly to cortical irritation. In chorea the fallacy of the distinction between "functional" and organic nervous disease is exemplified. Chorea can be fatal without the occurrence of meningeal inflammation. This fact, with the phenomena of latent chorea, suggests that chorea may be due to direct intoxication rather than gross infection of the cranial contents. The tendency of chorea is toward restoration of health to the brain. Treatment consists of (a) removal of the cause, active rheumatic infection, by rest in bed with administration of salicylates during the active stages; (b) prolonged mental and bodily rest during convalescence; (c) improvement of general health by fresh air, full diet, and tonics; (d) quieting of excessive movement by sedative drugs or packs, and cure of paresis by massage. The full-dose arsenical treatment is useless.

30. Sea-Sickness.—Kendall tried menthyl valerianate and obtained complete relief from his seasickness.

Australasian Medical Gazette, Sydney

May 20

33 The Central Western Medical Association. R. Bowman.
34 Salvarsan in Syphilis. A. E. Finckh.
35 Salvarsan in Syphilis. Sixty-Five Cases Treated at Coast Hospital, Sidney. R. J. Millard.
36 Treatment of Nasal Obstruction. T. K. Hamilton.
37 Asthma in Relation to Nose. M. Jay.
38 Nasal Obstruction: Its Varieties and Effects. R. Pulleine.
39 Epidemic Febrile Diseases Prevalent in Brisbane. A. G. Butler.
40 Recent Epidemic of Dengue in Brisbane. K. Scott.
41 Recent Epidemic of Dengue in Queensland. G. Davidson.
42 Case of Secondary Syphilis with Acute Yellow Atrophy of Liver. R. J. Millard.
43 Pathology of Some Cerebrospinal Fluids. H. Tebbutt.
44 History of Disease in Australia. J. B. Cleland.

Annales de l'Institut Pasteur, Paris

May 25, XXV, No. 5, pp. 369-432

45 Fermentation Is Digestion. (Les phénomènes de fermentation sont des actes de digestion. Nouvelle demonstration apportée par l'étude de la dénitrification dans le règne végétal.) P. Mazé.
46 Anaphylaxis and Antianaphylaxis to Egg Albumin. A. Besredka and J. Bronfenbrenner (New York).
47 Influence of Salvarsan on the Blood Count. (De l'influence de arsénobenzol sur la formule leucocytaire du sang.) W. L. Yakimoff.

Annales de Médecine et Chirurgie Infantiles, Paris

June 1, XV, No. 11, pp. 337-364

48 Dysphagia in Children. E. Périer and Gaujoux.

Archives des Maladies de l'App. Digestif, Paris

May, V, No. 5, pp. 229-288

49 Pathogenesis of Gout and Recent Research on the Metabolism of the Nucleoproteids. G. Linossier.

Archives de Médecine des Enfants, Paris

April, XIV, No. 4, pp. 241-320

50 *Deformity of the Knee After Tuberculous Arthritis. (Les déviations du genou dans la tumeur blanche. Causes. Prophylaxie.) C. Ducroquet and V. Veau.
51 Physicochemical Characteristics of Infants' Saliva. G. B. Allaria.
52 Exanthem After Vaccination of Children. M. de Biehler.

May, No. 5, pp. 321-400

53 *Diphtheria Antitoxin in Prophylaxis. (De la valeur des injections préventives du serum antidiphthérique.) W. Markuson and W. Agopoff.
54 Verrucous and Pustular Tuberculosis of Entire Leg. A. Trèves and G. Schreiber.

50. Deformity of the Knee After Disease.—Ducroquet and Veau describe the mechanism which leads to ankylosis in a defective position and the means to prevent this. In the normal gait the knee is flexed; this equalizes the length of the limbs, as the free leg would be too long if it were not flexed to bring it forward into place. The pelvis sags on the free side, as it is not held up by the support of the leg, while the weight of the foot drags down the tip—both factors cooperating to make the free leg longer than the leg bearing the weight of the body. With a tuberculous knee, flexion is painful and is avoided; the leg is not flexed, but is twisted outward, which shortens it as needed, but has the disadvantage that the knee becomes fixed in a deformed position—genu valgum. To ward off this deformity it is necessary to apply an immobilizing apparatus reaching from the ischium (to prevent flexion) and the greater trochanter (to prevent abduction), down to the posterior surface of the calcaneum (to prevent flexion) and the external malleolus (to prevent abduction). This immobilizing apparatus should be applied as soon as the affection is diagnosed. As long as there is pain the child should be kept in bed. After six months to a year a walking apparatus should be applied under close supervision, and by the end of another year the tuberculous process may be regarded as cured.

53. Preventive Injections of Antitoxin.—Markuson and Agopoff state that their experience with antitoxin injected to protect children with measles against diphtheria was disappointing. The injections did not render the infants immune or modify the severity of the disease. Of 1,178 children in the measles wards treated with antitoxin, 2.12 per cent. developed diphtheria in the first week, 2.04 in the second, 0.51 in the third, 0.26 in the fourth and 0.17 per cent. after the fourth week. The corresponding percentages for the 1,156 children not injected were smaller, being, respectively, 1.56, 1.73, 0.52, 0.78 and 0.43 per cent. The mortality averaged 36.6 per cent. in the first group, and 32.3 in the other.

Lyon Médical, Lyons

May 21, CXVI, No. 21, pp. 907-960

55 Generalized Melanosis Originating in the Rectum. P. Bonnet and A. Chalier.

May 28, No. 22, pp. 961-1000

56 *Laparotomy for Irreducible Retroversion of the Uterus. Goullioud.

56. See THE JOURNAL, July 8, Abstract 46.

Presse Médicale, Paris

June 7, XIX, No. 45, pp. 471-476

57 *Diagnostic Importance of Nephralgia. P. Bazy.

June 10, No. 46, pp. 477-492

58 Treatment of Congenital Varus Equinus. P. Desfosses.
59 Conception Through the Ages of Fever. (La fièvre.) L. Meunier.

57. Nephralgia.—Bazy warns that nephralgia may be the premonitory symptom of latent cancer or tuberculosis or of destructive nephritis, before other signs develop. In two cases described the intense nephralgia was the only sign of a tumor in the kidney, so small that it escaped detection at first. One patient was a woman of 58, with intolerable right nephralgia, cured by decapsulation. Nothing pathologic was found in the kidney, but a few months later the patient died of generalized cancer. In the other case a man of 41 had recurring hemorrhage from the kidney for two years and then, after a latent period, intense nephralgia on the other side cured by nephrocapsulotomy. Several months later other symptoms developed indicating cancer. Both patients were relieved of their intense pains by the operation on the kidney, but in both cases the pains were evidently merely one manifestation of malignant disease, which, after a latent period of several months, finally proved fatal. In another case the intense nephralgia was the precursor of an evident tuberculous process. Decapsulation of the kidney gave temporary relief, but recurrence of pain, two years later, was the signal for nephrectomy, and unmistakable tuberculous lesions were discovered in the upper part of the kidney. In several cases the decapsulation also cured the nephralgia accompanying mild nephritis. One woman has had no pain since the decapsulation, four years ago; it materially improved her general health. The decapsulation does not have to be total when done merely for nephralgia; it is liable to answer the purpose, even if only a small part of the anterior or posterior surface is decapsulated or merely part of one surface.

Semaine Médicale, Paris

June 14, XXXI, No. 24, pp. 277-288

60 Diverticulitis Chronic from the Start. F. Lejars.

Berliner klinische Wochenschrift

June 5, XLVIII, No. 23, pp. 1021-1068

61 *Treatment of Tetanus with Injections of Phenol. (Statistische Resultate der Behandlung des Tetanus mit subcutanen Carbolinjektionen.) G. Baccelli.
62 *Incomplete Rupture of Uterus. K. Franz.
63 Salvarsan and Hyperideal in Syphilis. F. Lesser.
64 *Hemorrhagic Purpura. G. Stümpke.
65 Influence of Diphtheria Toxin on Secretory Function of the Adrenals. (Einfluss des Diphtherietoxins auf die secretorische Funktion der Nebennieren.) M. Tscheboksaroff.
66 Case of Osteo-Arthropathy with Hypertrophy. G. Wolfsohn.
67 Diathermia: Electric Deep Heating in Treatment of Bone and Joint Disease. (Diathermie bei der Behandlung der Knochen und Gelenkkrankheiten.) A. E. Stein.
68 Disease of the Internal Sphincter of the Bladder and Posterior Urethra. H. Wossidlo.
69 *Frontal Headache and Vertical Strabismus. (Höhenschielen und Stirnkopfschmerz.) E. A. Heimann.
70 Obstetrical Analgesia. (Die Schmerzstillung bei der Geburt.) P. Strassmann.
71 Social Reform at the Expense of the Medical Profession. (Sozialreform gegen die Aerzte.) S. Vollmann.

61. Phenol Injections in Tetanus.—The intravenous or subcutaneous injection of a 2 or 3 per cent. solution of phenol was introduced into the treatment of tetanus by Baccelli before the dawn of serotherapy, and he here states that this method has amply established its efficacy. He tabulates the results obtained with it in ninety-four severe cases reported by forty-eight different clinicians, and thirty-eight very severe cases. The mortality was 2 per cent. in the first group and from 19 to 15 per cent. in the very severe cases. He found that patients with tetanus are exceptionally tolerant of phenol, so that it is possible to increase the dosage from 0.3 or 0.5 gm. to 1 or 1.5 gm. fractioned in the course of twenty-four hours, keeping close oversight of the urine. He cites only the cases, reports of which have been published

in the international literature, a total of 190 cases since 1888. In eleven of the sixteen fatal very severe cases the dosage had been manifestly inadequate, that is, below 1 gm., and in one of the others the patient had gangrene of the arm. The total mortality of the entire 190 cases was 17.36 per cent.

62. **Rupture of the Uterus.**—Franz reports two cases of partial rupture of the uterus during the management of placenta prævia. They confirm the old experience that placenta prævia loosens the tissue of the lower segment of the uterus so that it tears easily. It is important, therefore, to inspect this region through the speculum after delivery. In both the cases reported the tear was above the external os and could not be seen through the speculum alone. It is not a mere coincidence that the woman who succumbed was a primipara. If Cesarean section is ever justified for placenta prævia, Franz remarks, it is with a primipara and a living child at term. With a small tear, the tamponing can be done from the vagina, but on suspicion of extensive rupture the tamponing should be done through an extraperitoneal incision parallel to Poupart's ligament. Hysterectomy should be done without delay in case the hemorrhage is not arrested by the tampon. Franz does not advocate suture of the tear; this is difficult and unreliable, while the rupture may be always regarded as infected from the start.

64. **Hemorrhagic Purpura.**—The patient was a previously healthy young laboring man who developed severe hemorrhagic purpura with suggillation in the throat, almost suffocating him, while signs of inflammation were evident in joints, kidneys and bronchi. Secondary necrosis developed in the throat, leaving extensive defects, but recovery otherwise was complete in a month.

69. **Vertical Strabismus and Frontal Headache.**—Heimann has frequently found that frontal headache was permanently cured by measures to correct vertical strabismus. The symptoms of hypertropia are indistinctness of vision, fatigue of the eyes in the theater and elsewhere requiring distant eyework, as well as in sewing, reading and writing. When the eyes are used much there follow a dull ache in the brow, and possibly vertigo and nausea, or, more frequently, supraorbital neuralgia. With all other ocular muscular disturbances prolonged rest of the eyes and general toning up, as after a vacation, reduce the disturbances, but this is not the case with those due to vertical strabismus. They persist unmodified, and if the cause is not discovered and corrected, may torment the victim all his life.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 10, XLI, No. 17, pp. 393-624

72 Sterilization of Women. A. Labhardt.
73 The Parathyroids. (Zur Lehre der Epithelkörperchen.) H. Möller. Commenced in No. 16.

Deutsche medizinische Wochenschrift, Berlin

June 8, XXXVII, No. 23, pp. 1057-1104

74 *Diagnosis and Treatment of Tuberculosis of Female Genital Organs. P. Kroemer.
75 Intracellular Bodies Found in Scarlet Fever. (Experimentelle Untersuchungen über die Scharlachätiologie.) G. Bernhardt and P. A. Hoefer.
76 Spontaneous Paratyphoid in Guinea-Pigs. H. Bofinger.
77 Biology of Intestinal Bacteria. G. Seiffert.
78 Lime-Sulphur Mineral Water in Treatment of Pulmonary Tuberculosis. (Wirkung der Arminiusquelle bei Lungentuberkulose.) Werner and C. Schreiber.
79 Filtration in Urine Production. (Anteil der Filtration an der Harnbereitung.) E. Frey.
80 *Mechanism of Elimination of Sugar and Means to Influence It. (Einfluss der Dyspnoe auf den Diabetes.) J. v. Magyary-Kossa.
81 Abnormally Narrow Aorta. (Zur Kasuistik der Aorta angusta.) M. Krabbel.
82 *Iodin Sterilization of Skin. (Jodtinkturdesinfektion.) C. Decker.
83 *Pregnancy Seems to Favor Development of Cancer. (Gibt es eine vermehrte Disposition für Karzinomentwicklung während der Gravidität?) F. Lindstedt.
84 Treatment of Varicose Ulcers. Wehner.

74. **Genital Tuberculosis in Women.**—Kroemer found that the Fallopian tubes were affected in 222 of the 267 cases on record of tuberculosis of the female genital organs, the ovaries in forty-two, the uterus in sixty-seven, the vagina in sixteen and the cervix in eleven. But he affirms that this preponderance of tubal involvement by no means excludes the possibility of primary ascending infection from without. The patients complain nearly always of severe sacral and abdominal pains and disturbances in menstruation. The dysmenorrhea persists during the entire menstrual period, in which it differs from the ordinary antemenstrual dysmenorrhea. Tenesmus and pains in the bladder, without objective findings, are also frequent, and there are liable to be gastro-intestinal disturbances, loss of appetite, constipation or diarrhea, or both alternating. Pallor and emaciation are late symptoms as a rule. The chief aid to the diagnosis is the almost invariable participation of the peritoneum in the process, revealed by discovery of nodular thickening in the reflection of the peritoneum in the pouch of Douglas, when the peritoneal layers are rubbed together between the finger in the vagina and a finger in the rectum. The tuberculin reactions are of little use, as tuberculosis may be present even with a negative reaction, while a positive indicates merely that there is a tuberculous focus somewhere in the body. In one of his cases a violent local reaction was observed in the ovaries in a severe ovarian tuberculosis. The absence of any general or local reaction to the tuberculin test excludes tuberculosis, while ascites or nodules in the pouch of Douglas or ulceration on the genital mucosæ confirm its existence. Treatment should be operative on principle. Inoculation of animals with a scrap from the focus is the most reliable measure. A little secretion or tissue can be obtained through the vaginal cul-de-sac, and by crushing the regional lymph-nodes in the inoculated animal it is possible to determine the presence of tubercle bacilli in less than two weeks. Rabbits are well adapted for this test, he says. The non-efficacy of the ordinary conservative measures is further testimony against gonorrhea; superheated air in particular aggravates conditions in the tuberculous process. In a recent case of tumor in the right ovary or tube, application of electricity was followed each time by a colic-like attack of abdominal pain, lasting for several hours. Operation revealed advanced tuberculosis of the ovary with multiple abscesses.

80. **Means to Reduce Glycosuria.**—The experimental, clinical and pharmacologic experiences related seem to demonstrate that the symptoms of diabetes are the result of toxic action from the sugar in the blood and tissues, and, further, that phloridzin and the factors producing glycosuria in diabetes act by their toxic influence on the innervation of the kidneys or the nerve centers in the brain controlling the renal nerves. The aim in diabetes, therefore, should be to reduce the glycosuria, and Magyary-Kossa has found that inhalation of carbon dioxid is able to accomplish this. Rabbits with phloridzin glycosuria had the elimination of sugar reduced 50 per cent. when dyspnea was induced by inhalation of carbon dioxid or other means. This suggests that inhalation of carbon dioxid might reduce the output of sugar in diabetics, "of which," he says, "more anon." In his experimental research the amount of sugar eliminated dropped by 21, 27, 29 and 67.8 per cent. after subcutaneous injection of carbonic acid water (*Sodawasser*). The carbon dioxid seems to have a paralyzing action on the renal nerves or their centers.

82. **Tincture of Iodin Sterilization of the Skin.**—Decker's research seems to show that the iodin is not bactericidal, as employed, but owes its sterilizing action to the effect on the skin, rendering it less susceptible. Eczema developed frequently under the plaster afterward and some of the surgeons and attendants found the fumes irritating to eyes and throat, so that the method has been discarded in Decker's service.

83. **Pregnancy and Cancer.**—Lindstedt has recently encountered five cases in which necropsy or an operation confirmed the assumption of gastric cancer in pregnant women, all between the ages of 22 and 33. (Sänger has also encountered two cases of the kind in women of 28 and 32.) In all the cases there was evidence that the cancer did not exist before the pregnancy. Lindstedt adds that among 743 cases of gastric cancer at the Stockholm hospital since 1889, fifty-nine of the women were under 42, and in fifteen of the twenty cases in which the last pregnancy was recorded, the case-histories seemed to indicate that the cancer had developed in connection with a pregnancy and had not preceded it. Comparison of other statistics in regard to cancer in men and in women and

in the married and unmarried, confirms the assumption, Lindstedt thinks, of a predisposing influence of the pregnancy. Some of the changes that occur with a pregnancy are analogous to senile changes, especially the hypertrichosis, accumulation of fat, formation of osteophytes, caries of the teeth, cessation of menstruation, abnormal pigmentation, reduced capacity for assimilation of carbohydrates, etc. The premature sexual maturity of children with embryoid tumors is another argument in this line—all showing a predisposition for cancer created by the fact of the pregnancy. The first symptoms of gastric and uterine cancer develop relatively often in connection with a pregnancy, and they are more frequent at the corresponding ages in married than in unmarried women.

Medizinische Klinik, Berlin

June 4, VII, No. 23, pp. 875-912

85 *Persisting Disturbances After Appendectomy. (Gründe bleibender Beschwerden insbes. Adhäsionsbeschwerden nach Appendektomie.) F. König.
86 *Headache and Disturbances in Ocular Muscles. (Kopfschmerzen und Augenmuskelstörungen.) F. Schanz.
87 *Hot Dip Baths. (Heisse Tauchbäder.) Determann.
88 *Bismuth Salts in Radiography. (Zur Anwendung von Wismutsalzen in der Röntgenpraxis.) L. Metzger.
89 Blood Findings with Multiple Neurofibromas. (Ueber einen Blutbefund bei der Recklinghausenschen Krankheit.) J. Wittemann.
90 Chicken-Pox in Adults. (Varicellen bei Erwachsenen.) P. Misch.
91 Radio-Active Zwieback. (Radioaktives Gebäck.) J. Ruhemann.
92 Medical Pseudomathematical Formulas. (Die Sperlingsche "Circulationsformel.") B. Lewy.
93 Means of Communication Between the Higher Animals. (Verständigungsmittel in der höheren Tierwelt.) A. Sokolowsky.

85. Disturbances Persisting After Appendectomy.—König reviews the causes for symptoms persisting after removal of the appendix. Among them may be coexisting cholelithiasis, enteroptosis or gynecologic disorder, but by far the most important cause is the formation of adhesions, and König thinks that much can be done to avoid this after the operation. In his seventy-one cases of disturbing adhesions, analysis of the histories shows that the adhesions were particularly liable to develop when the serosa had been injured in any way, or when there were preexisting adhesions. Every operation, it seems, is almost sure to enhance a preexisting tendency to formation of adhesions. König even goes so far as to maintain that appendectomy, when adhesions have already formed, has a dubious prognosis; the more extensive the adhesions, the greater the liability to trouble later. The practical lesson from his arguments is that the appendix should be removed before adhesions have had time to form; he disapproves of tiding the patient along and waiting for an interval operation. Far better is it, he declares, to remove the appendix at once, restricting the incision to the smallest possible opening and using every means to prevent adhesions by stimulating peristalsis and the circulation, encouraging the patient to exercise early, moving the legs in bed and getting up after the second day, with instructions to keep up gymnastic exercises at home and keep the bowels open. If adhesions are already present, these measures are not enough, and they must be supplemented by oil, one tablespoon by the mouth and 250 c.c. of warm oil injected into the rectum, with abdominal massage after the first week, avoiding the field of operation at first, but later going over the whole abdomen. When extensive adhesions with the abdominal wall are found at the operation, König has the patient lie on the other side for hours the day after the operation and change his position frequently, assuming the knee-elbow position at times and getting up as soon as possible. He reports two instructive cases, one showing the severity of the symptoms that may develop even from slight adhesions, and the other—the clinical picture suggesting cancer at first—illustrating the fine results that may be obtained by well-planned treatment.

86. Headache and Ocular Muscular Disturbances.—Schanz discusses the strain on the innervation when the eyes are not exactly symmetrical, and he relates instances of neurasthenic disturbances, headache and epileptiform seizures, in which benefit or complete cure followed correction of the trouble. He discusses how the general practitioner can detect this muscular eye strain when the patients complain of everything except of their eyes. With muscular asthenopia the patient complains only of nausea, vomiting, vertigo, insomnia, etc. Schanz advises more frequent application of Maddox's rods for the detection of the anomaly in the position of the eyes, and Gräfe's card for detection of disturbances in convergence. The frequency of disturbances of this kind and the numerous expensive and ineffectual attempts to cure them based on ignorance of their etiologic connection, should compel practitioners to familiarize themselves with these simple methods of investigation. In three of the cases described, severe neurasthenia for years, rebellious to all neurologic treatment, was cured with all its train of symptoms at one stroke by appropriate glasses on the discovery of the previously unheeded tendency to vertical strabismus, hypertropia.

87. Hot Dip Baths.—Determann expatiates on the beneficial stimulating effect and reaction of a bath of only four to ten seconds' duration in water at a temperature of 37 to 45 C. (98.6 to 133 F.). The patient can lie down in the bath himself or be lowered into the water by two attendants. After the bath the patient is wrapped in blankets and lies quietly for an hour. Even weak patients can take these brief hot dips, which do not exhaust them, while they induce a vigorous reaction. The duration of the bath is so short that the body does not become overheated. The special indications for these hot dip baths are general motor weakness and general sensory irritability in persons free from organic disease. Partial hot dip baths may also prove useful in cases in which a full bath is too much of a strain.

88. Bismuth Carbonate in Radiography.—Metzger used bismuth carbonate instead of subnitrate in Roentgen examination of a young woman of 27 suspected of cancer. Thirty hours after taking the injection according to Rieder's technic, the greater part could be seen in the rectum and the patient complained of pains and tenesmus and the left hypochondrium was tender. After the rectum had been evacuated by an enema, the stool showing considerable blood, the symptoms subsided. The bismuth carbonate had evidently accumulated as an irritating foreign body in the rectum. The case illustrates the importance of clearing out the intestine and not allowing the bismuth to stagnate.

Münchener medizinische Wochenschrift

June 6, LVIII, No. 23, pp. 1225-1280

94 *Combined Electric and Roentgen Treatment of Cancer. (Elektro- und Radiochirurgie im Dienste der Behandlung maligner Tumoren.) R. Werner and A. Caan.
95 Radiography in Diagnosis of Disease of the Large Intestine. E. Stierlin.
96 *Atony of the Cecum and Allied Conditions. (Typhlatonie und verwandte Zustände: chron. Appendizitis, sog. Coecum mobile, Typhlektasie, sowie habituelle Zoekumtorsion.) F. J. Fischler.
97 Peristalsis Rhythm of Stomach. (Ueber den Rhythmus der Autrumperistaltik des Magens.) R. Kaufmann and R. Kienböck.
98 Hypertrophic Familial Neuritis. P. Boveri.
99 *Recurrences After Salvarsan Treatment of Nerve Syphilis. Desneux and Dujardin.
100 *Typhoid Sepsis. (Ueber Typhussepsis.) L. Jores.
101 Cholelithiasis. H. Kehr.
102 Injurious By-Effects of Liquid Petrolatum. (Ueber schädliche Wirkungen des Paraffinum liquidum: Mitteilung zur Salvarsantherapie.) T. Hausmann.

94. Electric Treatment of Cancer.—Werner and Caan's experiences with temporary eventration of internal organs for direct application of electricity and radiotherapy were mentioned in THE JOURNAL, April 22, 1911, p. 1234. They here give an illustrated description of further work in this line of electrosurgery and radiosurgery, as they call the combined method. The de Forest electric needle has proved exceptionally useful to prevent dissemination of germs in excising the growth. Ninety patients were treated with it, and the outcome was particularly gratifying in cases in which there was reason to anticipate recurrence after removal of the tumor by any other technic. In a few cases fulguration also proved useful. They used this needle technic for palliative operations on accessible inoperable cancers, sometimes supplemented with thermopenetration when the vicinity of large vessels did not forbid this. In this latter case excochleation and fulguration were preferable. Metastases of inoperable tumors should be treated, they add, the same as a primary operable growth.

96. **Atony of the Cecum.**—Fischler has encountered cases of actual atony of the cecum causing a special clinical picture characterized by stagnation at this point, putrefaction and local meteorism, and pain from traction, with a train of pains, colics, palpable tumor and obstinate constipation. The appendix may have nothing to do with the syndrome, and the cecum is not necessarily abnormally movable or displaced. The amount of food should be restricted, and too much carbohydrate, fat or albumin should be especially avoided in the diet. Light massage of the region of the cecum is useful, in the direction of peristalsis, with gymnastic exercises during the intervals of disturbances. All powerful purgatives should be avoided, so as to refrain from further irritation of the intestinal mucosa. Fischler orders further three or four teaspoonfuls a day of a mixture of 15 parts each of bismuth subnitrate and magnesia usta, with 10 parts each of bismuth subsalicylate and pulverized rhubarb, to be taken in water after eating. This is to be kept up for a week or two. Moist heat should be applied also to the cecum region by compresses worn during the night, while the patient should be instructed what foods to avoid as liable to induce flatulence or indigestion. In case of very severe colic application of cold and minute doses of morphin may be necessary. This clinical picture has sometimes been mistaken for wandering cecum, and the bowel has been sutured in place, but the disturbances persist. The two conditions may coexist, but the above medical measures should be given a thorough trial, Fischler insists, before assuming that operative correction is necessary.

99. **Neurorecurrences After Treatment of Syphilis with Salvarsan.**—Desneux and Dujardin report from Brussels seven cases of typical recurrences, such as Benario and others have described. They encountered these seven cases among 351 in which salvarsan treatment was given, but they are confident that the disturbances were exclusively of a syphilitic nature, probably related to a secondary syphilitic meningitis. The relative frequency of such disturbances the authors ascribe to the inadequacy of the dosage, the inadequate dose having apparently a peculiar influence on the evolution of the syphilitic process.

100. **Typhoid Autosepsis.**—Jores found no characteristic lesions of typhoid at necropsy of a man of 45 who succumbed in less than two weeks with symptoms of sepsis, chills, angina, torticollis, swelling of various joints and of the ears, with high fever but not a high pulse-rate. Typhoid bacilli were cultivated from the blood, and it was learned that the man had passed through a severe typhoid fever sixteen years before. Jores thinks it probable that he was a chronic bacillus-carrier and that an autobacterial reinfection was responsible for the sudden fatal sepsis, both the clinical and anatomic findings confirming this assumption. He does not know of any similar case on record, but it shows the possible peril which threatens apparently healthy bacillus-carriers. He urges closer examination in all cases in which typhoid bacteriemia is observed with a fatal affection of apparently other origin, to determine the exact share of typhoid sepsis in the process.

Therapeutische Monatshefte, Berlin

June, XXV, No. 6, pp. 341-404

103 Experimental and Clinical Research on the Action of High-Frequency Electric Currents. (Wirkung der Hochfrequenzströme.) A. Schittenhelm.
104 *Acute and Chronic Intestinal Catarrh in Young Children. (Darmkatarrhe im 2. und 3. Lebensjahre.) F. Göppert.
105 *Furuncle in the Ear. R. Imhofer.
106 *Detection of Foreign Body in the Throat by Staining It. (Fremdkörper im Halse.) J. Fackenheim.
107 Radio-Active Mineral Water in Internal Disease. (Bedeutung der radioaktiven Gasquelle von Franzensbad für den Internisten.) Nenadovics.
108 *Warning Against Maretin. W. Heubner.
109 *Physicians' Lack of Judgment in Regard to New Drugs. (Aerztliche Urteile über moderne Arzneiproduktion.) W. Heubner.

104. **Treatment of Acute and Chronic Intestinal Catarrh in Young Children.**—Göppert endorses Meyer's statements, summarized in THE JOURNAL, June 10, 1911, p. 1676, in regard to the necessity for recognizing that milk should not be the basis of the diet for children 2 and 3 years old, but merely one element of the food, and that it may do direct harm in certain cases. Göppert's experience confirms Czerny's conception of the exudative diathesis, and the advisability of banishing from the diet of certain young children the usual excess of milk, eggs, butter and sweets.

105. **Furuncle of the Ear.**—Imhofer has discovered in experiments on dogs that infection occurs by way of the hair follicles, and locates in the sebaceous glands to form the furuncle. No traumatic portal of entry is required; any mechanical pressing in of infectious material into the orifice of a hair follicle is liable to induce the production of a furuncle. Treatment should aim, therefore, to evacuate the plug without pressure, as tamponing, etc., are liable to force infectious material into new hair follicles and thus set up a new furuncle. In one case a young girl had eight in the ear in three weeks. Imhofer has now devised a rubber bulb and tube which answers all the indications. The tube has a broad opening, near the closed tip, and aspiration from the compression of the bulb sucks out the ripe plug into the tube without mechanical trauma and without spreading the infection. He then introduces a strip of gauze, moistened with a 1 per cent. alcohol-mercuric bichlorid solution, introducing the strip along the sound wall which it protects against infection. The aspiration is applied again the next day, and this generally cures the patient permanently.

106. **Fish-Bone in the Throat.**—In the case reported by Fackenheim, it proved impossible to distinguish the fish-bone, which had evidently lodged in the throat and was causing much disturbance. Fackenheim had the patient eat some stewed huckleberries, hoping thus to discolor the fish-bone and render it visible. This measure was successful, a blue point then being seen projecting 1 mm. from the red left tonsil. Fackenheim has applied this staining method in a number of cases since, and always with immediate success.

108. **Warning Against Maretin.**—Heubner protests against some advertising literature recently sent out by the firm making maretin which commends the drug as an antipyretic, especially for the fever in phthisis, the advertisement stating that, according to Professor Dresser's exact experiments, maretin is not a poison for the blood. This last statement is contrary to reports on the drug that have been published by various clinicians which Heubner cites, and he relates the results of numerous experiments of his own which demonstrate that maretin has a powerful action on the blood, inducing pronounced anemia. It is an excellent means to induce experimental anemia, and the number of cases in which the blood has been injured by maretin is shockingly large, he says, far too large to be shielded by the acceptance of an idiosyncrasy. He adds that the career of maretin is typical: first laudatory reports from clinicians, then words of doubt, warnings and reports of bad by-effects, then a pause; then after a long period of silence, a new propaganda campaign on the part of the manufacturers. Unfortunately, this career of the drug has also a serious side: A leading firm of manufacturing chemists has here overridden the fundamental principles of ethics, for it is unquestionable that a physician would obtain an entirely different idea in regard to the value and disadvantages of maretin from the postals sent out by the manufacturers from what he would obtain by reading up the articles on maretin that have been published in the medical press, especially the warnings by Krönig, Benfey and Steinhauer, in 1905. Heubner adds that it would be well for us to remember that the firm's action in this case might be followed by an aggravation of the condition of hundreds of patients, and that the firm was willing to take this action in spite of its fine equipment and the cooperation of medical experts, including a prominent pharmacologist. What goes on in the inner circles of a commercial enterprise, he continues, is not always above all reproach, and only the liveliest critical cooperation on the part of the rank and file of the profession and its leaders is able to confer the greatest attainable sense of security. The rough stones discovered by commercial enterprise are valueless when accepted with blind confidence; the stone does not reveal its possible value until after it has been polished up under the polishing powder of the sense of responsibility on the part of physicians.

What we need above all, Heubner declares, is a skeptical attitude of mind during the experimental stage of new drugs. *Was uns not tut, ist Zweifel.*

109. **Physicians' Lack of Judgment in Regard to New Drugs.**—Heubner refers to the unfavorable criticism to which he was subjected when he protested against supplying reprints for manufacturers to use as propaganda literature for their products. (His article on the subject was summarized in THE JOURNAL, July 30, 1910, p. 446.) His critics stated that physicians would not be led astray by advertising literature, and that the average physician must certainly be credited with sufficient power of judgment to recognize that the new drugs commended to his attention are still in the experimental stage. In view of this unfavorable criticism, he rejoices when others take a similar stand with him, and he quotes from the "Pocket Book of Treatment" by R. W. Leftwich, which was reviewed in THE JOURNAL, April 15, 1911, page 1129. Heubner also cites Zabel's report and comment on a case of poisoning from purgen, laying great stress on the evils of overproduction. The flood of new drugs is so great that physicians feel helpless as they are overwhelmed by this flood, and seem to make no effort for critical judgment of any of the drugs. This overproduction is, Heubner thinks, one of the most important causes of this wide-spread absence of critical judgment, which is such a great lack in our medical culture. The very burdening of the memory with so many names impresses on the physician a feeling of his own inadequacy, and this crushes out of him the inner power for energetic critical resistance.

In reality, Heubner continues, there is not such a vast number of different actions or of effectual substances; it is merely the names of the drugs and their combinations or forms which pile up in such numbers. But the *action* of the drugs is what the physician is interested in, while the many names serve only for commercial purposes. Against his will the physician is thus compelled to master all this extraneous matter which has really nothing to do with his practice, and which he learns only at the cost of what is fundamentally important for him. For all his ideas of the comparatively few and simple pharmacologic processes become tangled up in inextricable confusion.

Besides all this, it must not be forgotten that it is an easier and much simpler matter to produce a new effectual molecule than to determine the superior advantages of this new molecule in therapeutics. Consequently, many, many more new drugs are produced than are really thoroughly tested as to their therapeutic action. But what the physician wants to know is only those substances which offer most decided and positive advantages over those with which he is already acquainted. Most of the drugs which are lauded as new, have some therapeutic action, but it is no better than that of the old and tried drugs.

In this the manufacturing chemists make a mistake; they needlessly burden the physician with new drugs which do not possess absolutely certain superior therapeutic advantages, while they cumber the memory with many unnecessary new names. It follows, as a matter of course, that this must gradually breed a certain apathy. Why was it necessary to inflict another arbitrary name on veronal-natrium, for instance? Pantopon, he remarks, was not accepted by the Council on Pharmacy and Chemistry of the American Medical Association because the name did not suggest the presence of morphin. He adds that the correctness of this stand on the part of the Council is shown by Haymann's two articles on pantopon; in the first Haymann stated that pantopon did not have a tendency to induce habituation, which statement he retracted in the second article.

Heubner also gives the molecular formulas for six of the newer proprietaries, showing the close resemblance between the members of the group, while nothing in the name would suggest this. This similar constitution causes very similar action by them all; he thinks that it might even be asserted that the difference between the action of the various drugs in this group, administered to a single person, would be less than the difference between the action of a single one of the drugs given to different persons. But on account of this minute difference, the physician must burden his memory with six entirely different names. It is certainly for the interests of the medical profession, Heubner concludes, to be a little more backward in accepting the offerings of the manufacturing chemists. (Heubner has also published recently a breezy article telling his compatriots about the work of the Council on Pharmacy and Chemistry; it was reviewed in THE JOURNAL, April 5, 1911, p. 1155.)

Wiener klinische Wochenschrift, Vienna

June 1, XXIV, No. 22, pp. 775-810

110 *Dependence of Motor Functioning of the Intestines on the Motor and Secretory Behavior of the Stomach. S. Jonas.
111 *Differential Diagnosis from Cerebrospinal Fluid. (Das Verhalten des Reduktionsindex in der normalen und pathologischen Zerebrospinalflüssigkeit.) M. Lateiner.
112 Improved Radium-Holder. (Ueber St. Joachimsthaler Radiumträger.) F. Dautwitz.

June 8, No. 23, pp. 811-850

113 Experimental Research on Kidney Functioning. A. Katz and R. Lichtenstern.
114 Treatment of Wounds and Fractures. H. Ehrlich.
115 Digitalis Gelatine. (Ueber Digitalisleim—Gelina Digitalis.) M. Hers.
116 The Typhoid Epidemic at Hermannstadt. K. Ungar.

110. **The Motor Functioning of the Intestine in Relation to the Motor and Secretory Conditions of the Stomach.**—Jonas tabulates the findings in thirty-eight cases of gastro-intestinal disturbances, his conclusions being that there is no special connection between the degree of acidity of the stomach and the motor functioning of the intestines, but that any obstruction to the evacuation of the stomach has a proportional retarding influence on the passing of the contents through the intestine. Even when the motor functioning of the intestine is normal elsewhere, if the rectum has lost its sensitiveness, stool will accumulate there and the clinical picture of constipation be presented, although in reality conditions are normal except in the rectum. Jonas found the motility of the intestine always parallel to that of the stomach, that is, intestinal hypermotility seems to be the rule, at least in the upper segment, in cases of achylia, nervous hypermotility of the stomach and ulcer and sometimes with intestinal catarrh.

111. **Differential Diagnosis from Cerebrospinal Fluid.**—Lateiner gives the details of the application of Mayerhofer's reducing reaction in twenty-nine cases of certain or suspected meningitis. (Mayerhofer's technic was described in THE JOURNAL, June 11, 1910, p. 2009.) The findings compared with the course of the cases confirms the diagnostic importance of the reaction, particularly when the findings are negative. Repetition of the test in dubious cases generally cleared up the diagnosis.

Zentralblatt für Chirurgie, Leipsic

June 3, XXXVIII, No. 22, pp. 757-788

117 Isolated Relaxation of Right Abdominal Wall with Recurring Appendicitis. (Eine bisher nicht beachtete Erscheinung bei sich wiederholenden Appendicitisanfällen.) N. Wolkowitsch.
118 Movable Cecum and Appendicitis. (Coecum mobile, fixierte Appendix, Perityphlitis.) P. Sick.
119 Technic for Suturing Intestine. (Zur Technik der Darmnaht nach Schmieden.) W. Kausch.

Zentralblatt für Gynäkologie, Leipsic

June 3, XXXV, No. 22, pp. 801-832

120 Pathology of Fetal Hydrops. (Zur Pathologie des Hydrops foetus universalis.) F. Lieven and G. C. Nyhoff.
121 *Hypophysis Extract to Promote Labor. (Hypophysenextrakt als Wehenmittel.) J. Pfeifer.

June 10, No. 23, pp. 833-856

122 Puerperal Inversion of the Uterus. Nacke.
123 Vagitus Uterinus. W. v. Streit.

121. **Hypophysis Extract to Promote Labor.**—In the case reported by Pfeifer the primipara in the difficult breech presentation showed signs of pregnancy nephritis, ischuria, amaurosis and anasarca. No benefit was derived from quinin and ergot, and hypophysis extract was injected the third day on account of persisting ischuria and the delivery was forcibly completed with great difficulty. After a few hours of improvement the patient succumbed to the uremia. In future, Pfeifer remarks, he will reserve the hypophysis treatment for normal parturients.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 4, XXXII, No. 67, pp. 707-722

124 *Sea Bathing in Gynecology. L. M. Bossi.
125 Iodin Sterilization of Skin. (La disinfezione della cute col metodo Grossich.) C. Rinaldo.

June 6, No. 68, pp. 723-730

126 *Autoplastic Operation on Femoral Artery. C. Mantelli.

124. **Sea Bathing in Gynecology.**—Bossi has been much impressed with the therapeutic action of systematic sea bathing in the mild Italian climate in all chronic gynecologic affections, especially with fibromyomas, chronic endometritis, displacement with adhesions, defective puerperal involution and chronic inflammation in the genitalia. He insists on medical supervision and on the necessity for utilizing better the medical thermal and physical measures and combating the abuse of mutilating operations. In this line, Bossi adds, gynecologic thalassotherapy is one of the most effectual means with which Nature has endowed us.

126. **Autoplastic Operation on Femoral Artery.**—Mantelli's patient was a man of about 41 with sarcoma of the hip; 5 cm. of the femoral artery and vein had to be resected in removing the growth. The vein was ligated, and a segment cut from the central stump was used to bridge the gap in the artery. The autoplastic operation was done by Carrel's technic and with the best results. Mantelli says that it is the fifth case of the kind on record and the third in which the outcome was entirely satisfactory.

Policlinico, Rome

May 28, XVIII, No. 22, pp. 681-712

127 *Importance of Acetonuria in Gynecology. (Sul valore della ricerca dell'acetone nelle orine in chirurgia ginecologica.) O. Paleani.
128 Influenzal Alveolar Polyarthritis Aborted with Diphtheria Antitoxin. C. Palazzo.
129 Uterine Fever. L. M. Bossi and L. Stropeni.

June 4, No. 23, pp. 713-744

130 Intestinal Hemorrhage in Typhoid. (Per lo studio dell'enterorragia nel tifo.) L. Fornaca.
131 Obstetric Version. R. de Seigneux.

May, Surgical Section, No. 5, pp. 193-240

132 Septicemic Sporotrichosis. C. Antonio.
133 Changes in the Blood in Ether and Chloroform Anesthesia. (Le modificazioni morfologiche del sangue nella narcosi eterea e nella cloronarcosi.) A. Poggiolini. Commenced in No. 4.

127. **Acetonuria in Gynecology.**—Paleani ascribes the acetonuria following hemorrhage to reabsorption of the blood. The findings may be negative even with extensive internal hemorrhage if the blood is not being absorbed. In two cases of ruptured tubal pregnancy with great internal hemorrhage, the findings were negative until after the operation, while they were positive almost at once in a case of ruptured pyohematosalpinx with acute purulent peritonitis. Conditions favored absorption of the blood and acetone promptly appeared in the urine. The patient died but another recovered with practically the same findings except that the peritonitis had preceded the rupture and adhesions walled off the contents of the tube when it burst.

Riforma Medica, Naples

June 5, XXVII, No. 23, pp. 677-644

134 *Improved Technic for Determination of Negri Bodies. A. Martiri.
135 Case of Persisting Botallo's Foramen. (Considerazioni cliniche ed anatomo-pathologiche sopra un caso di morbo ceruleo.) U. Gasperini.

134. **Determination of the Negri Bodies.**—Martiri states that since the technic described has been adopted the positive findings have jumped from 31 to 95 per cent. The nerve tissue is mixed to a paste with glycerin and treated with a small amount of marine blue and eosin. This shows up the Negri bodies rapidly, and the stains keep well.

Hygiea, Stockholm

May, LXXIII, No. 5, pp. 513-672

136 *Practical Importance of the Wassermann Reaction in Syphilis. K. Marcus. Commenced in No. 3.
137 *Capillary Test of Acidity of Gastric Juice. (Kapillaranalys af magsaft.) I. Holmgren.

136. **The Practical Importance of the Wassermann Reaction in Syphilis.**—Marcus concludes his long monograph on this subject with the statement that a positive Wassermann reaction during a latent period should be regarded and treated as a symptom of syphilis. It indicates active syphilis. A negative reaction in itself has no significance, but in connection with other circumstances may aid in throwing light on the case under special conditions. The Wassermann reaction should not be accepted as a guide for the course of treatment as a whole. It is better to conduct the treatment according to the Fournier-Neisser-Welander principle. Marcus adds parenthetically that the time is not yet ripe for a decisive opinion on salvarsan in this respect. Mercurial treatment has a regular and decided action on the Wassermann reaction. The article is accompanied by thirty pages of international bibliography on the Wassermann reaction, with the original titles.

137. **Capillary Test for Gastric Acidity.**—Holmgren's blotting-paper test was described in THE JOURNAL, March 18, 1911, page 857. He here gives parallel findings in fifty-four cases with this and other tests, all confirming its reliability.

Norsk Magazin for Lægevidenskaben, Christiania

June, LXXII, No. 6, pp. 625-732

138 *Actinomycosis in Norway. F. Harbitz and N. Grøndahl.
139 *Fatal Benzol Poisoning from Siderosthen. (Død ved benzolforgiftning ved smurning av en septic tank med "siderosthen.") N. W. Oxholm.
140 Bismuth Does Not Neutralize Acidity of the Stomach. (Er Subnitras bismuthicus et syremaettende middel?) P. W. K. Bøckman.
141 Two Cases of Rupture of Spleen from Contusion. (Ruptur av milten.) H. Wille.
142 Arthrodesis of Ankle by Implanted Nail Cut from Fibula. (Arthrodese med benkile ved pes paralyticus.) H. Wille.
143 Improved Technic for Iridotasis for Glaucoma. J. Borthen.

138. **Actinomycosis in Norway.**—Harbitz and Grøndahl discuss the prevalence, the pathologic anatomy and the bacteriology of actinomycosis with a report of eighty-seven cases, accompanied by four colored plates. Their experiences with serotherapy were not very encouraging but they justify further trials of the method and research to discover some specific serodiagnosis.

139. **Benzol Poisoning.**—A man was wiping out the inside of a septic tank with a proprietary used for the purpose, called siderosthen, when he collapsed and died soon after being removed from the tank. The substance contained benzol and Oxholm ascribes the fatality to this, reviewing what has been written on benzol in the literature. Schmidt-Nielsen has recently reported a case of poisoning from benzol fumes, emphasizing the importance of ample ventilation when benzol in any form is used in manufacturing.

Ugeskrift for Læger, Copenhagen

May 11, LXXIII, No. 19, pp. 663-710

144 *Two Cases of Pulmonary Syphilis. C. E. Jensen.

144. **Pulmonary Syphilis.**—Jensen's first patient was a girl of 6 who was under treatment for an apical process for eighteen months after operative treatment of a tedious suppuration on the left side of the nose, supposed to be of a tuberculous nature although the microscope failed to confirm this assumption. There was no history of syphilis or tuberculosis in the family. The physical signs of mischief at the left apex were accompanied by slight evening temperature but there was no sputum. The Pirquet reaction, however, was negative, while the Wassermann reaction proved positive, and under antisyphilitic treatment the child soon was restored to health. The temperature became permanently normal three weeks after commencing the inunctions and iodid. The Wassermann test applied to the parents elicited a positive response in the mother alone. The congenital syphilis had evidently induced a chronic pneumonic process at the apex and checked the physical development of the child which took a turn for the better at once under the specific treatment. The second patient was a healthy young woman who contracted syphilis at the age of 25 and the disease ran a severe course with a tendency to repeated suppuration in spite of vigorous specific treatment. About eighteen months after the infection, the middle lobe of the right lung showed signs of infiltration and fever developed with great impairment of the general health. Under mercury and iodid the symptoms retrogressed but returned two years later, subsiding anew under another specific course of treatment. In both cases the distressing paroxysmal cough was not accompanied by expectoration. The localization of the process in the middle lobe on one side also spoke for syphilis; Grandidier has reported that in twenty-seven of thirty cases of pulmonary syphilis he found on record the lesion was located in the middle lobe of the right lung.